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May 13, 2014

Ms. Tammy Moore - LU-9J
U.S. EPA Region V
Corrective Action Section
77 West Jackson Boulevard
Chicago, IL 60604-3507

Re: Long-Term Monitoring Program
1st Quarter 2014 Data Report
Solutia Inc., W. G. Krummrich Plant, Sauget, IL

Dear Ms. Moore:

Enclosed please find the Long-Term Monitoring Program 1st Quarter 2014 Data Report for Solutia Inc.'s W. G. Krummrich Plant, Sauget, IL. Results from supplemental piezometers GWE-3D, 5S, and 5M and supplemental wells GWE-5D and ESL-MW-A, C1, and D1 are included in this report.

If you have any questions or comments regarding this report, please contact me at (314) 674-3312 or gmrina@eastman.com

Sincerely,

A handwritten signature in blue ink, appearing to read "Gerald M. Rinaldi".

Gerald M. Rinaldi
Manager, Remediation Services

Enclosure

cc: Distribution List

DISTRIBUTION LIST

**Long-Term Monitoring Program
1st Quarter 2014 Data Report
Solutia Inc., W. G. Krummrich Plant, Sauget, IL**

USEPA

Stephanie Linebaugh
USEPA Region 5 - SR6J, 77 West Jackson Boulevard, Chicago, IL 60604

Solutia

Donn Haines 500 Monsanto Avenue, Sauget, IL 62206-1198

1ST QUARTER 2014
DATA REPORT

LONG-TERM MONITORING
PROGRAM

SOLUTIA INC.
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS

Prepared for

Solutia Inc.
575 Maryville Centre Drive
St. Louis, Missouri 63141

May 2014



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1.0 INTRODUCTION

This report presents the results of the 1st Quarter 2014 (1Q14) sampling event performed at the Solutia Inc. (Solutia) W.G. Krummrich (WGK) Facility located in Sauget, Illinois (Site). This sampling event was conducted in accordance with the Revised Long-Term Monitoring Program (LTMP) Work Plan (Solutia 2009). The Site location is presented in **Figure 1**.

The LTMP was designed to evaluate the effectiveness of monitored natural attenuation (MNA), including: 1) a clear and meaningful trend of decreasing contaminant mass; 2) data that indirectly demonstrate the types and rates of natural attenuation processes active at the site; and 3) data that directly demonstrate the occurrence of biodegradation processes at the site.

Groundwater Sampling Location and Frequency – As specified in the Revised LTMP Work Plan, groundwater samples were collected from five monitoring wells downgradient of the Former Chlorobenzene Process Area (CPA-MW-1D through CPA-MW-5D) and five monitoring wells downgradient of the Former Benzene Storage Area (BSA-MW-1S and BSA-MW-2D through BSA-MW-5D) to assess attenuation processes in the American Bottoms aquifer, as impacted groundwater from these source areas migrates toward and discharges to the Mississippi River. Additionally, at the request of USEPA, Groundwater samples were also collected from monitoring well GWE-5D and piezometers GWE-3D, GWE-5S, and GWE-5M along with East St. Louis (ESL) monitoring wells ESL-MW-A, ESL-MW-C1, and ESL-MW-D1, all located approximately 1.0 - 1.5 miles north of WGK.

Monitoring wells CPA-MW-1D, 2D, 3D, 4D, and 5D are located within the limiting flow lines downgradient of the Former Chlorobenzene Process Area. Monitoring wells BSA-MW-1S, 2D, 3D, 4D, and 5D are located within the limiting flow lines downgradient of the Former Benzene Storage Area. Source areas and monitoring well locations are presented in **Figure 2**.

Groundwater Sampling Parameters – During the 1Q14 groundwater sampling event, groundwater samples from the seventeen monitoring wells described above were analyzed (via USEPA Method 8260B) for benzene, chlorobenzene, 1,2-dichlorobenzene, 1,3-dichlorobenzene, and 1,4-dichlorobenzene to demonstrate a trend of decreasing contaminant mass and/or concentrations over time. In accordance with USEPA comments regarding the Long-Term Monitoring Plan, the following constituents are included in the groundwater monitoring parameter list on a semi-annual basis (1st and 3rd Quarters):

- 4-Chloroaniline: CPA-MW-3D, CPA-MW-4D, and CPA-MW-5D
- 2-Chlorophenol: All BSA and CPA series wells
- 1, 2, 4-Trichlorobenzene: All BSA and CPA series wells
- 1,4-Dioxane: BSA-MW-2D, BSA-MW-3D, BSA-MW-4D, and BSA-MW-5D

Samples for analysis of MNA parameters were collected from seventeen monitoring wells. Evaluation of the types of active natural attenuation processes at the site is based on the following key geochemical parameters:

- Electron Donors: Organic Carbon (Total and Dissolved)
- Electron Acceptors: Iron (Total and Dissolved)
Manganese (Total and Dissolved)
Nitrate
Sulfate
- Biodegradation Byproducts: Carbon Dioxide
Chloride
Methane
- Biodegradation Indicators: Alkalinity

Direct demonstration of the occurrence of biodegradation processes is completed quarterly utilizing Microbial Insights (www.microbe.com) Bio-Trap® Samplers for Phospholipid Fatty Acid (PLFA) Analysis, along with Bio-Trap® samplers baited with benzene or chlorobenzene for Stable Isotope Probing (SIP) analysis.

Surface Water and Sediment Sampling – Surface water and sediment samples are collected during winter low flow conditions and during summer low flow conditions as part of the site long-term monitoring program. This typically coincides with the 1st and 3rd quarter groundwater sampling events. The objective of the surface water and sediment monitoring program is to assess the impact of contaminated groundwater discharging to the Mississippi River north of the Groundwater Migration Control System (GMCS). However, due to unfavorable river conditions (e.g., excessively low water and/or ice flow) during the first quarter, surface water and sediment samples could not be collected.

2.0 FIELD PROCEDURES

URS Corporation (URS) conducted 1Q14 LTMP field activities on January 30-31 and February 3-4, 7, 10-14, 18, and 20, 2014. Field activities could not be completed on consecutive days due to adverse weather conditions. Activities were completed in accordance with procedures outlined in the Revised LTMP Work Plan, including the collection of appropriate quality assurance and quality control (QA/QC) samples. The following section summarizes field investigative procedures:

Groundwater Level Measurements – URS personnel used an electronic oil/water interface probe to measure depth to static groundwater levels, the thickness of non-aqueous phase liquid

(NAPL) if present, and total well depth to 0.01 feet. Depth to groundwater measurements were collected on January 30 and 31, 2014 from accessible existing wells (i.e., BSA-, CPA-, ESL-GM-, GWE-, K-, PS-MW-, and PMA-series) and piezometer clusters (installed for the Sauget Area 2 RI/FS and WGK CA-750 Environmental Indicator projects) specified in the Revised LTMP Work Plan (**Figure 3**). NAPL was not detected within any of the monitoring wells or piezometers gauged in 1Q14.

Well gauging information for the 1Q14 event is presented in **Table 1**. As the middle and deep hydrogeologic units are the primary migration pathway for constituents present in groundwater at the WGK Facility, a groundwater potentiometric surface map based on water level data from wells screened in the Middle Hydrogeologic Unit (MHU) and Deep Hydrogeologic Unit (DHU) is presented as **Figure 3**.

Groundwater Sampling - Low-flow sampling techniques were used for groundwater sample collection. At each monitoring well, disposable, low-density polyethylene tubing was attached to a submersible pump or peristaltic pump (GWE-3D), which was then lowered into the well to the middle of the screened interval. Monitoring wells were purged at a rate of approximately 300 to 400 mL/minute to minimize drawdown. If significant drawdown occurred, flow rates were reduced.

Drawdown was measured periodically throughout purging to ensure that it did not exceed 25% of the distance between the pump intake and the top of the screen. Once the flow rate and drawdown were stable, field measurements were collected approximately every two to four minutes. Purging of a well was considered complete when the following water quality parameters remained stable over three consecutive flow-through cell volumes:

Parameter	Stabilization Guidelines
Dissolved Oxygen (DO)	+/- 10% or +/-0.2 mg/L, whichever is greatest
Oxidation-Reduction Potential (ORP)	+/- 20 mV
pH	+/- 0.2 units
Specific Conductivity	+/- 3%

Sampling commenced upon completion of purging. Prior to sample collection, the flow-through cell was bypassed to allow for collection of uncompromised groundwater. Samples were collected at a flow rate less than or equal to the rate at which stabilization was achieved. Sample containers were filled based on laboratory analysis to be performed, in the following order:

- Volatile Organic Compounds (VOCs)
- Semivolatile Organic Compounds (SVOCs)

- Gas Sensitive Parameters (e.g., methane, carbon dioxide)
- General Chemistry (e.g., alkalinity, chloride, total and dissolved iron, total and dissolved manganese, nitrate, sulfate, total and dissolved organic carbon, and ferrous iron)

Samples collected for ferrous iron, dissolved iron, dissolved manganese, and dissolved organic carbon analysis were filtered in the field using in-line 0.2 micron disposable filters, represented by a notation of “F (0.2)” in the sample nomenclature.

Quality assurance/quality control (QA/QC) samples consisting of analytical duplicates (AD) and equipment blanks (EB) were collected at a rate of 10%, and matrix spike/matrix spike duplicates (MS/MSD) were collected at a rate of 5%. In addition, trip blanks accompanied each shipment containing samples for VOC analysis.

Each investigative or QA/QC sample was labeled immediately following collection. Each sample identification number consisted of the following nomenclature “AAA-MW#-MMYY-QAC” where:

- “**AAA**” denotes “Benzene Storage Area (BSA)”, “Chlorobenzene Process Area (CPA)”, “East St. Louis (ESL)”, or “Groundwater Evaluation (GWE)” and “**MW-#**” denotes “Monitoring Well Number”:
- “**MMYY**” – Month and year of sampling quarter, e.g.: February (1st quarter), 2014 (0214)
- “**QAC**” denotes QA/QC sample
 - **AD** – Analytical Duplicate
 - **EB** – Equipment Blank
 - **MS** or **MSD** – Matrix Spike or Matrix Spike Duplicate

Upon collection and labeling, sample containers were immediately placed inside an iced cooler, packed in such a way as to help prevent breakage and maintain inside temperature at or below approximately 4°C. Field personnel recorded the project identification and number, sample description/location, required analysis, date and time of sample collection, type and matrix of sample, number of sample containers, preservative used (if applicable), analysis requested/comments, and sampler signature/date/time, with permanent ink on a chain-of-custody (COC). Coolers were sealed between the lid and sides with a custody seal, and then shipped to TestAmerica in Savannah, Georgia by means of an overnight delivery service. Sampling data forms are included in **Appendix A**, while copies of COCs are included in **Appendix B**.

Field personnel and equipment were decontaminated according to procedures specified in the Revised LTMP Work Plan to ensure the health and safety of those present, maintain sample

integrity, and minimize movement of contamination between the work area and off-site locations. Equipment used on-site was decontaminated prior to beginning work, between sampling locations and/or uses, and prior to demobilizing from the site. Non-disposable purging and sampling equipment was decontaminated between each sample acquisition by washing with an Liquinox® or equivalent detergent wash and a distilled water rinse. Personnel and small equipment decontamination was performed at the sample locations. Disposable sampling equipment, such as gloves were collected and bagged on a daily basis and managed in accordance with Solutia procedures. Purge water was containerized and handled per Solutia procedures.

Biodegradation Evaluation Sampling - Bio-Trap® samplers and Bio-Trap® samplers baited with benzene or chlorobenzene, provided by Microbial Insights, Inc. (Rockford, TN), were utilized in the LTMP wells (except GWE-5 cluster, ESL wells, and GWE-3D) to provide information regarding biodegradation potential of the Shallow Hydrogeologic Unit (SHU), the MHU, and the DHU. Bio-Trap® samplers are passive sampling tools which, over time, collect microbes across a membrane that serves as the sampling matrix. When baited with ¹³C labeled benzene or chlorobenzene, the Bio-Traps® can also be used to measure the degradation of benzene or chlorobenzene utilizing a method also known as stable isotope probing (SIP).

On February 20-21, 2014, URS field personnel deployed Bio-Trap® samplers in each of the LTMP wells (except GWE-5 cluster, ESL wells, and GWE-3D) for PLFA analysis. A benzene baited Bio-Trap® and a chlorobenzene baited Bio-Trap® were placed in monitoring wells BSA-MW-2D and CPA-MW-3D, respectively. Bio-Trap® samplers were attached to a stainless steel line secured to the well cap and lowered to the middle of the well screen.

On March 24, 2014, the Bio-Trap® samplers were retrieved from the wells, sealed in laboratory supplied bags, labeled with the proper well identification and placed in an iced sample cooler with a signed COC. Sealed sample coolers were sent to Microbial Insights, Inc. for analysis.

3.0 LABORATORY PROCEDURES

Samples were analyzed by TestAmerica for VOCs, SVOCs, and MNA parameters, using the following methodologies:

- VOCs, via USEPA SW-846 Method 8260B
- SVOCs, via USEPA SW-846 Method 8270D
- MNA parameters: alkalinity (310.1), carbon dioxide (310.1), chloride (325.2), total and dissolved iron (6010C), total and dissolved manganese (6010C), dissolved gases (RSK 175), nitrate (353.2), sulfate (375.4), and total and dissolved organic carbon (415.1).

Laboratory results were provided in electronic and hard copy formats.

4.0 QUALITY ASSURANCE

Analytical data were reviewed for quality and completeness, as described in the Revised Long Term Monitoring Work Plan. Data qualifiers were added, as appropriate, and are included on the data tables and the laboratory result pages. The Quality Assurance report is included as **Appendix C**. The laboratory reports along with data reviews are included in **Appendix D**.

A total of twenty-one groundwater samples (seventeen investigative samples, two field duplicate pair, and one MS/MSD pair) were prepared and analyzed by TestAmerica Savannah for combinations of VOCs, SVOCs, dissolved gases, metals, and general chemistry. Additionally, two equipment blanks were prepared and analyzed by TestAmerica. Ten trip blank sets were included in the coolers that contained samples for VOC analysis and were analyzed for VOCs. The results for the various analyses were submitted as sample delivery groups (SDGs) KPS106 through KPS115. The samples contained in SDGs KPS106 through KPS115 are listed below:

KPS106	
BSA-MW-3D-0214	1Q14 LTM Trip Blank #1
CPA-MW-5D-0214	
KPS107	
BSA-MW-2D-0214	CPA-MW-3D-0214-AD
CPA-MW-3D-0214	1Q14 LTM Trip Blank #2
KPS108	
BSA-MW-4D-0214	BSA-MW-5D-0214-EB
BSA-MW-5D-0214	1Q14 LTM Trip Blank #3
KPS109	
GWE-5S-0214	GWE-5D-0214
GWE-5M-0214	1Q14 LTM Trip Blank #4
KPS110	
ESL-MW-A-0214	1Q14 LTM Trip Blank #5
ESL-MW-C1-0214	
KPS111	
CPA-MW-2D-0214	ESL-MW-D1-0214
CPA-MW-2D-0214-AD	1Q14 LTM Trip Blank #6
KPS112	
BSA-MW-1S-0214	1Q14 LTM Trip Blank #7
BSA-MW-1S-0214-EB	
KPS113	
CPA-MW-1D-0214	1Q14 LTM Trip Blank #8

KPS114	
GWE-3D-0214	LTM Trip Blank #9
KPS115	
CPA-MW-4D-0214	1Q14 LTM Trip Blank #10

Evaluation of the groundwater analytical data followed procedures outlined in the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (USEPA 2008), USEPA Contract Laboratory Program National Functional Guidelines for Superfund Inorganic Data Review (USEPA 2010), and the Revised LTMP Work Plan (Solutia 2009).

Based on the above mentioned criteria, groundwater results reported for the analyses performed were accepted for their intended use. Acceptable levels of accuracy, precision, and representativeness (based on MS/MSD, LCS, surrogate compounds, and field duplicate results) were achieved for this data set, except where noted in this report. Completeness, which is defined to be the percentage of analytical results that are judged to be valid, including estimated detect/non-detect (J/UJ) data, was 100% percent.

5.0 OBSERVATIONS

Groundwater analytical detections and MNA results for the 1Q14 LTMP sampling event are presented in **Tables 2** and **3**, respectively. Benzene and chlorobenzenes were reported in samples collected from the LTMP wells during this sampling event. Each of these constituents is discussed below:

Benzene – Benzene was detected in samples collected from fourteen of the seventeen wells, at concentrations ranging from 1.3 µg/L (ESL-MW-C1) to 560,000 µg/L (BSA-MW-1S).

Downgradient of the Former Benzene Storage Area, benzene was detected in the DHU at concentrations of 130,000 µg/L (BSA-MW-2D) and 52 µg/L (BSA-MW-3D). Near the river north of the GMCS, benzene was detected in the DHU at concentrations of 58 µg/L and 24 µg/L (BSA-MW-4D and BSA-MW-5D, respectively).

Benzene was detected at the Former Chlorobenzene Process Area (CPA) at a concentration of 7,200 µg/L (CPA-MW-1D). Downgradient of the Former Chlorobenzene Process Area, benzene was detected at concentrations of 960/1,000 µg/L (CPA-MW-2D and duplicate), 13,000/14,000 µg/L (CPA-MW-3D and duplicate), and 23 µg/L (CPA-MW-4D).

Benzene was not detected near the river north of the GMCS at monitoring well CPA-MW-5D.

Benzene was detected approximately one mile north of the Solutia WGK Facility at concentrations of 1.6 µg/L (ESL-MW-A), 1.3 µg/L (ESL-MW-C1), 62 µg/L (ESL-MW-D1), 57 µg/L (GWE-3D), and 2.7 µg/L (GWE-5D). Benzene was not detected at GWE-5S or GWE-5M.

Chlorobenzenes (Total) – Total chlorobenzenes (i.e., sum of chlorobenzene, 1,2-dichlorobenzene, 1,3-dichlorobenzene, and 1,4, dichlorobenzene) were detected in thirteen of the seventeen wells sampled in 1Q14, at concentrations ranging from 5.4 µg/L (ESL-MW-C1) to 41,500 µg/L (CPA-MW-1D).

Downgradient of the Former Chlorobenzene Process Area, total chlorobenzenes were detected in the DHU at concentrations of 34,970/34,820 µg/L at the North Tank Farm (CPA-MW-2D and duplicate), along with concentrations of 270/290 µg/L (CPA-MW-3D and duplicate) and 274.9 µg/L (CPA-MW-4D). Total chlorobenzenes were detected in the DHU near the river north of the GMCS at a concentration of 1,900 µg/L (CPA-MW-5D).

Downgradient of the Former Benzene Storage Area, total chlorobenzenes were detected at a concentration of 3,020 µg/L (BSA-MW-3D). North of the SA2 GMCS, near the river, total chlorobenzenes were detected in the DHU at concentrations of 2,255 µg/L (BSA-MW-4D) and 465.1 µg/L (BSA-MW-5D).

Total chlorobenzenes were detected approximately one mile north of the Solutia WGK Facility at concentrations of 8.7 µg/L (ESL-MW-A), 5.4 µg/L (ESL-MW-C1), 2,560 µg/L (ESL-MW-D1), 2,468 µg/L (GWE-3D), and 83.8 µg/L (GWE-5D). Total chlorobenzenes were not detected at GWE-5S or GWE-5M.

Figure 4 displays benzene and total chlorobenzenes results from the 1Q14 sampling event.

Monitored Natural Attenuation – The MNA results for this quarter are presented in **Table 3**. PLFA and SIP laboratory results are included in **Appendix E**. Per the Executive Summary of the SIP Study (**Appendix E**): “Incorporation of ¹³C [carbon-13] into the biomass in wells BSA-MW-2D-0314 and CPA-MW-3D-0314 conclusively demonstrated that benzene and chlorobenzene biodegradation occurred under existing site conditions”. Elevated levels of carbon dioxide and methane, which are biodegradation byproducts, in a majority of the LTM wells provide further evidence to support the occurrence of natural attenuation.

6.0 REFERENCES

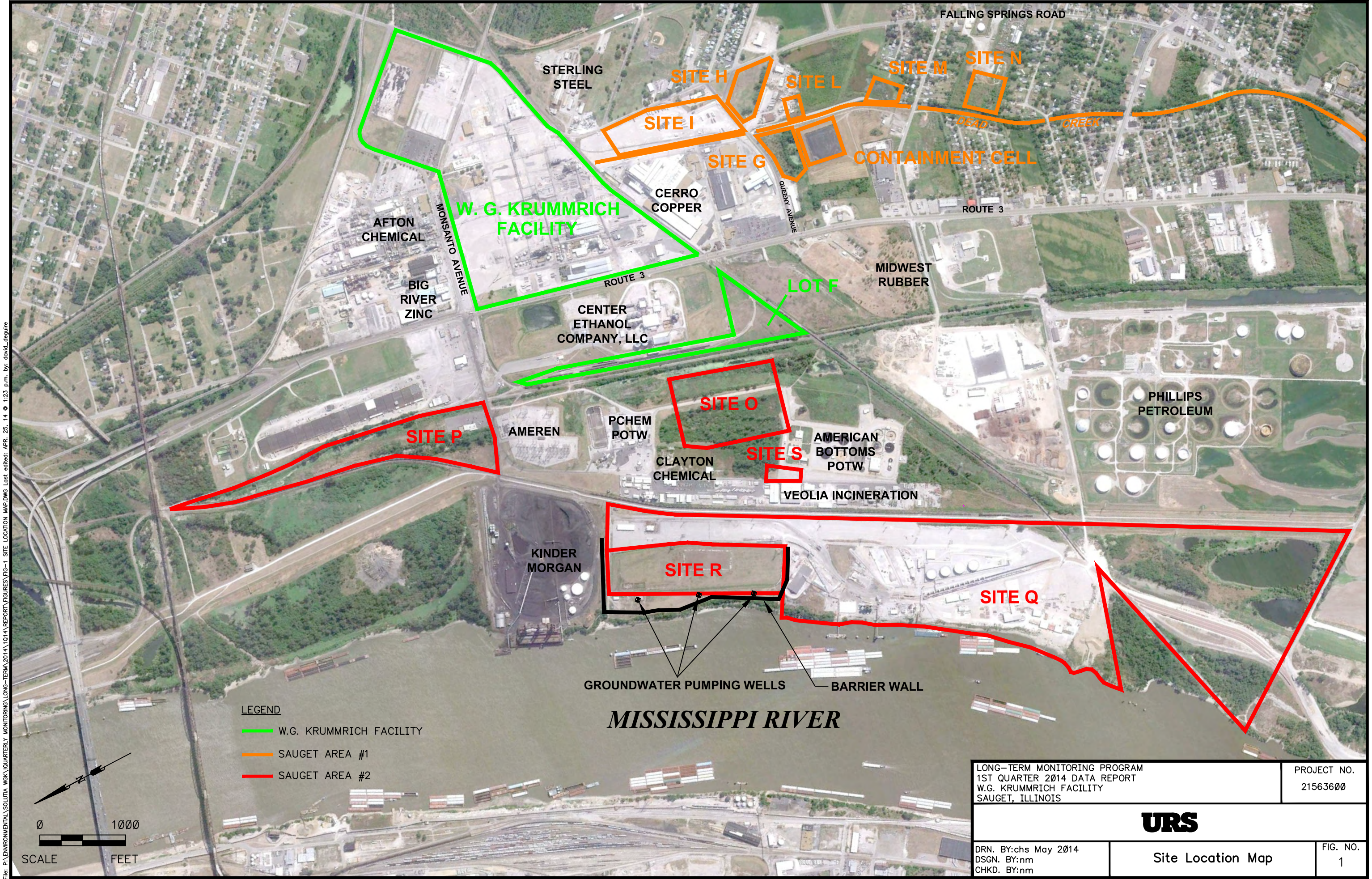
Solutia Inc, 2009. Revised Long Term Monitoring Program Work Plan, Solutia Inc., W.G. Krummrich Facility, Sauget, Illinois, May 2009.

USEPA, 2010. Contract Laboratory Program National Functional Guidelines for Superfund Inorganic Data Review.

USEPA, 2008. Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review.

Figures

File: P:\ENVIRONMENTAL\SOLUTIONS\WQ\QUARTERLY MONITORING\LONG-TERM\2014\Q1\4. REPORT FIGURES\FIG-1 SITE LOCATION MAP.DWG Last edited: APR. 25, 14 @ 1:23 p.m. by: david_degure



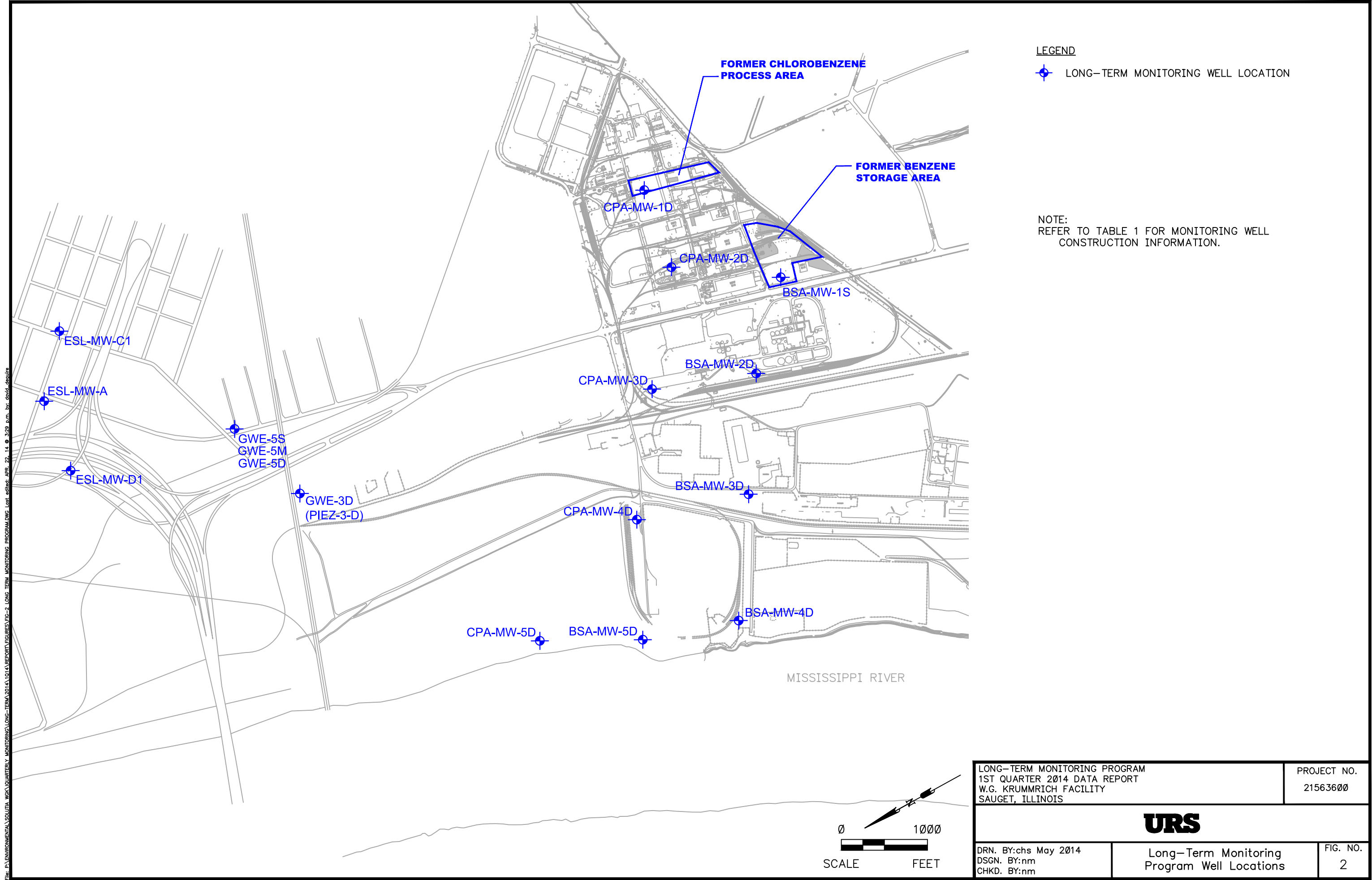


Fig. 2: ENVIRONMENTAL SOLUTIONS WORKQUARTERLY MONITORING LONG-TERM 2014 1014 REPORT FIGURES FIG-2 LONG TERM MONITORING PROGRAM.DWG Last edited: APR. 22, 14 @ 3:29 p.m. by: david_desquire

File: P:\ENVIRONMENTAL\SOLUTIONS\WGK\QUARTERLY MONITORING\LONG-TERM 2014\1014\REPORT\FIGURES\FIG-3 POTENTIOMETRIC SURFACE MAP.DWG Last edited: 05/02/14 @ 10:28 a.m. WC-ST. LOUIS, MO

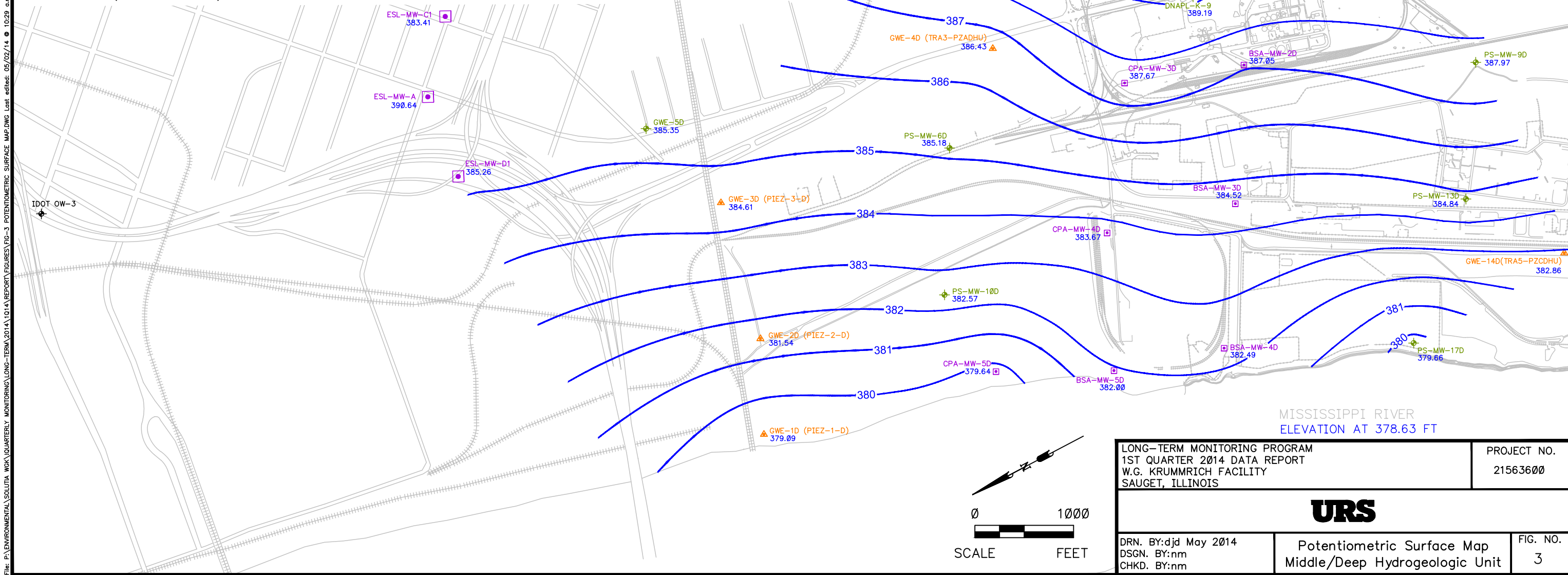
LEGEND

- LONG-TERM MONITORING WELL USED FOR GROUNDWATER CONTOURING
- OTHER MONITORING WELL USED FOR GROUNDWATER CONTOURING
- PIEZOMETER CLUSTER USED FOR GROUNDWATER CONTOURING
- CPA MONITORING WELL USED FOR GROUNDWATER CONTOURING
- IDOT GROUNDWATER WELL

—392— GROUNDWATER ELEVATION CONTOUR (FT NAVD)

NOTES:

- GROUNDWATER LEVELS WERE MEASURED JANUARY 30–31, 2014.
- CONTOURS GENERATED PRIMARILY USING SURFER SOFTWARE VERSION 8. SOME INTERPRETATION WAS DONE USING PROFESSIONAL JUDGMENT AND CONTOUR LINES WERE MODIFIED BY HAND. SPECIFICALLY, CONTOURS WITHIN THE WGK PLANT AREA WERE SMOOTHED TO CORRECT FOR THE EFFECT OF VERTICAL HYDRAULIC GRADIENTS GIVEN THE DIFFERING WELL SCREEN DEPTHS. ALSO, GROUNDWATER ELEVATIONS RECORDED AT ESL-MW-A AND ESL-MW-C1 ARE INCONSISTENT WITH HISTORICAL READINGS AT THESE LOCATIONS AND WERE NOT USED FOR GROUNDWATER CONTOURING.
- THE MISSISSIPPI RIVER STAGE ELEVATION PRESENTED ON THE FIGURE IS AN AVERAGE ELEVATION FOR THE DAYS OF THE GAUGING EVENT. RIVER ELEVATIONS WERE COLLECTED FROM AN ELECTRONIC GAUGE (USGS 07010000) LOCATED AT RIVER MILE 180.0 ON THE EADS BRIDGE.
- LOCATIONS WITH WELLS SCREENED IN BOTH THE MHU AND DHU UTILIZED THE DHU WELL FOR DEVELOPMENT OF THE POTENTIOMETRIC SURFACE MAP.
- LOCATION OF WELL IDOT OW-3 BASED ON FIGURE 4 IN DEWATERING WELL ASSESSMENT FOR THE HIGHWAY DRAINAGE SYSTEM AT FOUR SITES IN THE EAST ST. LOUIS AREA, ILLINOIS (FY00–PHASE 17), ILLINOIS STATE WATER SURVEY, CONTRACT REPORT 2003–08.



File: P:\ENVIRONMENTAL\SOLUTIONS\WGL\QUARTERLY MONITORING\LONG-TERM\2014\1Q14\REPORT FIGURES\FIG-4 BENZENE AND CHLOROBENZENE RESULTS LONG TERM.DWG Last edited: MAY 01, 14 @ 10:07 a.m. by: david_degure

Chemical	1Q14 Results (GWE-5S)
Benzene	ND
Total Chlorobenzenes	ND

Chemical	1Q14 Results (GWE-5M)
Benzene	ND
Total Chlorobenzenes	ND

Chemical	1Q14 Results (GWE-5D)
Benzene	2.7
Total Chlorobenzenes	83.8

Chemical	1Q14 Results
Benzene	1.3
Total Chlorobenzenes	5.4

Chemical	1Q14 Results
Benzene	7,200
Total Chlorobenzenes	41,500

Chemical	1Q14 Results
Benzene	960 / 1,000
Total Chlorobenzenes	34,970 / 34,820

Chemical	1Q14 Results
Benzene	13,000 / 14,000
Total Chlorobenzenes	270 / 290

Chemical	1Q14 Results
Benzene	23
Total Chlorobenzenes	274.9

Chemical	1Q14 Results
Benzene	57
Total Chlorobenzenes	2,468

Chemical	1Q14 Results
Benzene	1.6
Total Chlorobenzenes	8.7

Chemical	1Q14 Results
Benzene	62
Total Chlorobenzenes	2,560

Chemical	1Q14 Results
Benzene	ND
Total Chlorobenzenes	1,900

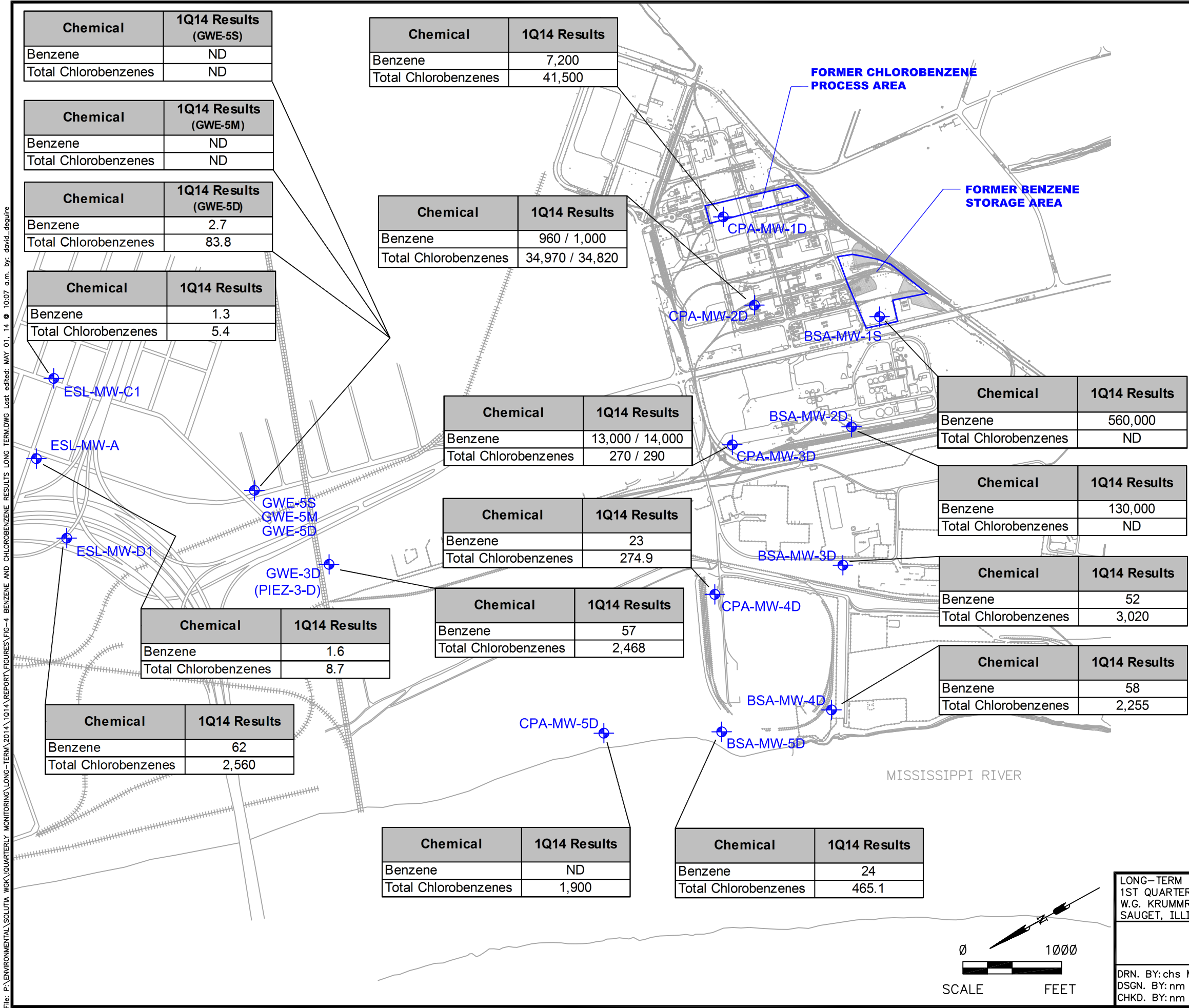
Chemical	1Q14 Results
Benzene	24
Total Chlorobenzenes	465.1

LEGEND

LONG-TERM MONITORING WELL LOCATION

NOTES:

1. TOTAL CHLOROBENZENES RESULTS INCLUDE THE SUM OF MONOCHLOROBENZENE, 1,2-DICHLOROBENZENE, 1,3-DICHLOROBENZENE, AND 1,4-DICHLOROBENZENE.
2. RESULTS SHOWN ARE IN ug/L.
3. ND = NOT DETECTED.
4. MULTIPLE SAMPLE RESULTS INDICATE A DUPLICATE SAMPLE.



Chemical	1Q14 Results
Benzene	560,000
Total Chlorobenzenes	ND

Chemical	1Q14 Results
Benzene	130,000
Total Chlorobenzenes	ND

Chemical	1Q14 Results
Benzene	52
Total Chlorobenzenes	3,020

Chemical	1Q14 Results
Benzene	58
Total Chlorobenzenes	2,255

LONG-TERM MONITORING PROGRAM
1ST QUARTER 2014 DATA REPORT
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS

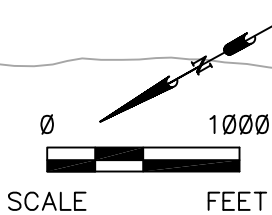
PROJECT NO.
21563600

URS

DRN. BY:chs May 2014
DSGN. BY:nm
CHKD. BY:nm

Benzene and
Total Chlorobenzenes Results

FIG. NO.
4



Tables

See last page of table for notes.

Table 1
Monitoring Well Gauging Information

Well ID	Construction Details						January 30-31, 2014			
	Ground Elevation* (feet)	Casing Elevation* (feet)	Depth to Top of Screen (feet bgs)	Depth to Bottom of Screen (feet bgs)	Top of Screen Elevation* (feet)	Bottom of Screen Elevation* (feet)	Depth to Water (feet btoc)	NAPL Thickness (feet)	Depth to Bottom** (feet btoc)	Water Elevation* (feet)
Shallow Hydrogeologic Unit (SHU 395-380 feet NAVD 88)										
BSA-MW-1S	409.49	412.31	19.68	24.68	389.81	384.81	23.04	-	27.31	389.27
GWE-5S	408.47	408.05	17.91	27.91	390.56	380.56	22.42	-	27.88	385.63
Middle Hydrogeologic Unit (MHU 380-350 feet NAVD 88)										
GWE-5M	408.59	408.20	48.10	58.10	360.49	350.49	22.63	-	58.08	385.57
PMA-MW-1M	410.32	410.08	54.54	59.54	355.78	350.78	18.95	-	59.62	391.13
PMA-MW-2M	412.26	411.93	56.87	61.87	355.39	350.39	20.99	-	61.29	390.94
PMA-MW-3M	412.36	412.10	57.07	62.07	355.29	350.29	20.78	-	61.80	391.32
PMA-MW-5M	411.27	410.97	52.17	57.17	359.10	354.10	20.61	-	57.00	390.36
PS-MW-1M	409.37	412.59	37.78	42.78	371.59	366.59	19.98	-	46.03	392.61
Deep Hydrogeologic Unit (DHU 350 feet NAVD 88 - Bedrock)										
BSA-MW-2D	412.00	415.13	68.92	73.92	343.08	338.08	28.08	-	77.03	387.05
BSA-MW-3D	412.91	415.74	107.02	112.02	305.89	300.89	31.22	-	114.84	384.52
BSA-MW-4D	425.00	424.69	118.54	123.54	306.46	301.46	42.20	-	123.22	382.49
BSA-MW-5D	420.80	420.49	115.85	120.85	304.95	299.95	38.49	-	120.99	382.00
CPA-A-DHU	413.95	416.24	108.00	113.30	305.95	300.65	23.43	-	115.23	392.81
CPA-B-DHU	409.12	408.68	101.00	106.50	308.12	302.62	16.67	-	105.57	392.01
CPA-C-DHU	408.92	408.57	101.00	106.00	307.92	302.92	16.64	-	105.52	391.93
CPA-D-DHU	409.63	412.20	101.00	105.90	308.63	303.73	20.39	-	108.31	391.81
CPA-MW-1D	408.62	412.23	66.12	71.12	342.50	337.50	20.89	-	74.70	391.34
CPA-MW-2D	408.51	408.20	99.96	104.96	308.55	303.55	19.52	-	104.67	388.68
CPA-MW-3D	410.87	410.67	108.20	113.20	302.67	297.67	23.00	-	112.85	387.67
CPA-MW-4D	421.57	421.20	116.44	121.44	305.13	300.13	37.53	-	121.01	383.67
CPA-MW-5D	411.03	413.15	107.63	112.63	303.40	298.40	33.51	-	114.70	379.64
DNAPL-K-1	413.07	415.56	108.20	123.20	304.87	289.87	23.06	-	123.20	392.50
DNAPL-K-2	407.94	407.72	97.63	112.63	310.31	295.31	16.72	-	112.28	391.00
DNAPL-K-3	412.13	415.91	104.80	119.80	307.33	292.33	24.42	-	123.09	391.49
DNAPL-K-4	409.48	412.53	102.55	117.55	306.93	291.93	21.68	-	118.35	390.85
DNAPL-K-5	412.27	411.91	102.15	117.15	310.12	295.12	20.51	-	116.56	391.40
DNAPL-K-6	410.43	410.09	102.47	117.47	307.96	292.96	19.72	-	116.95	390.37

Table 1
Monitoring Well Gauging Information

Well ID	Construction Details						January 30-31, 2014			
	Ground Elevation* (feet)	Casing Elevation* (feet)	Depth to Top of Screen (feet bgs)	Depth to Bottom of Screen (feet bgs)	Top of Screen Elevation* (feet)	Bottom of Screen Elevation* (feet)	Depth to Water (feet btoc)	NAPL Thickness (feet)	Depth to Bottom** (feet btoc)	Water Elevation* (feet)
Deep Hydrogeologic Unit (DHU 350 feet NAVD 88 - Bedrock)										
DNAPL-K-7	408.32	407.72	100.40	115.40	307.92	292.92	17.83	-	115.38	389.89
DNAPL-K-8	408.56	411.38	102.65	117.65	305.91	290.91	22.34	-	117.61	389.04
DNAPL-K-9	406.45	405.97	97.42	112.42	309.03	294.03	16.78	-	111.21	389.19
DNAPL-K-10	413.50	413.25	105.43	120.43	308.07	293.07	21.33	-	120.12	391.92
DNAPL-K-11	412.20	411.78	105.46	120.46	306.74	291.74	22.18	-	120.30	389.60
GM-9C	409.54	411.21	88.00	108.00	321.54	301.54	20.55	-	108.30	390.66
GWE-1D	412.80	415.60	117.00	127.00	295.80	285.80	36.51	-	128.40	379.09
GWE-2D	417.45	417.14	127.00	137.00	290.45	280.45	35.60	-	136.69	381.54
GWE-3D	415.03	417.66	104.60	114.60	313.06	303.06	33.05	-	114.96	384.61
GWE-4D	406.05	405.74	74.00	80.00	332.05	326.05	19.31	-	78.79	386.43
GWE-5D	408.79	408.38	100.43	105.43	308.36	303.36	23.03	-	105.20	385.35
GWE-10D	410.15	412.87	102.50	112.50	307.65	297.65	24.16	-	114.89	388.71
GWE-14D	420.47	422.90	90.00	96.00	330.47	324.47	40.04	-	97.10	382.86
ESL-MW-A	412.93	412.59	105.50	110.50	307.43	302.43	21.95	-	108.70	390.64
ESL-MW-C1	410.09	409.79	104.00	109.00	306.09	301.09	26.38	-	109.95	383.41
ESL-MW-D1	416.38	416.04	114.00	119.00	302.38	297.38	30.78	-	119.33	385.26
PMA-MW-4D	411.22	410.88	68.84	73.84	342.38	337.38	19.34	-	73.30	391.54
PMA-MW-6D	407.63	407.32	96.49	101.49	311.14	306.14	18.14	-	101.32	389.18
PS-MW-6D	404.11	406.63	102.32	107.32	304.31	299.31	21.45	-	109.83	385.18
PS-MW-9D	403.92	403.52	100.40	105.40	303.52	298.52	15.55	-	105.16	387.97
PS-MW-10D	409.63	412.18	103.78	108.78	308.40	303.40	29.61	-	111.32	382.57
PS-MW-13D	405.80	405.53	106.08	111.08	299.72	294.72	20.69	-	110.18	384.84
PS-MW-17D	420.22	423.26	121.25	126.25	298.97	293.97	43.60	-	134.04	379.66
SA2-MW-1D	403.79	406.03	105.01	115.01	301.02	291.02	29.97	-	102.31	376.06

Notes:

* - Elevation based upon North American Vertical Datum (NAVD) 88 datum

** - Total depths are measured annually during the first quarter of each year

bgs - below ground surface

btoc - below top of casing

Table 2
Groundwater Analytical Results

Sample ID	Sample Date	VOCs (µg/L)					SVOCs (µg/L)			
		Benzene	Chlorobenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	4-Chloroaniline*	2-Chlorophenol*	1,4-Dioxane*	1,2,4-Trichlorobenzene*
BENZENE STORAGE AREA										
BSA-MW-1S-0214	2/13/2014	560,000	<10,000	<10,000	<10,000	<10,000	NA	<11	NA	<11
BSA-MW-2D-0214	2/4/2014	130,000	<2,000	<2,000	<2,000	<2,000	NA	<10	16	<10
BSA-MW-3D-0214	2/3/2014	52	2,700	<50	<50	320	NA	23	<10	<10
BSA-MW-4D-0214	2/7/2014	58	2,200	<25	<25	55	NA	16	18	<10
BSA-MW-5D-0214	2/7/2014	24	460	<5	<5	5.1	NA	<10	<10	<10
CHLOROBENZENE PROCESS AREA										
CPA-MW-1D-0214	2/14/2014	7,200	17,000	14,000	1,200	9,300	NA	<20	NA	650
CPA-MW-2D-0214	2/12/2014	960	26,000	<250	370	8,600	NA	<110	NA	<110
CPA-MW-2D-0214-AD	2/12/2014	1,000	26,000	<250	420	8,400	NA	<110	NA	<110
CPA-MW-3D-0214	2/4/2014	13,000	270	<100	<100	<100	32	<10	NA	<10
CPA-MW-3D-0214-AD	2/4/2014	14,000	290	<100	<100	<100	29	<11	NA	<11
CPA-MW-4D-0214	2/20/2014	23	270 D	1.7	<1	3.2	150	<10	NA	<10
CPA-MW-5D-0214	2/3/2014	<20	1,900	<20	<20	<20	<19	26	NA	<9.7
AREA NORTH OF WGK										
ESL-MW-A-0214	2/11/2014	1.6	3.5	2.2	<1	3	NA	NA	NA	NA
ESL-MW-C1-0214	2/11/2014	1.3	2	1.5	<1	1.9	NA	NA	NA	NA
ESL-MW-D1-0214	2/12/2014	62	2,500	<25	<25	60	NA	NA	NA	NA
GWE-3D-0214	2/18/2014	57	2,200	28	<25	240	NA	NA	NA	NA
GWE-5S-0214	2/10/2014	<1	<1	<1	<1	<1	NA	NA	NA	NA
GWE-5M-0214	2/10/2014	<1	<1	<1	<1	<1	NA	NA	NA	NA
GWE-5D-0214	2/10/2014	2.7	73	2.2	<2	8.6	NA	NA	NA	NA

Notes:

µg/L = micrograms per liter

< = Result is non-detect, less than the reporting limit given

* = Indicates samples that are collected semi-annually (1st and 3rd Quarter)

BOLD indicates concentration greater than reporting limit.

AD = Analytical Duplicate

NA = Sample not analyzed for select analyte in accordance with Revised LTMP Work Plan

D = Compound analyzed at a dilution

Table 3
Monitored Natural Attenuation Results Summary

Sample ID	Sample Date	Alkalinity (mg/L)	Carbon Dioxide (mg/L)	Chloride (mg/L)	Dissolved Oxygen (mg/L)	Ethane (ug/L)	Ethylene (ug/L)	Ferrous Iron (mg/L)	Iron (mg/L)	Iron, Dissolved (mg/L)	Manganese (mg/L)	Manganese, Dissolved (mg/L)	Methane (ug/L)	Nitrogen, Nitrate (mg/L)	Sulfate as SO ₄ (mg/L)	Total Organic Carbon (mg/L)	Dissolved Organic Carbon (mg/L)	ORP (mV)
BENZENE STORAGE AREA																		
BSA-MW-01S-0214	2/13/2014	920	60	110	0.02	<1.1	<1		10		1		5,900	<0.05	<5	10		-153.14
BSA-MW-01S-F(0.2)-0214	2/13/2014							>3.30		10		1					9.8 J	
BSA-MW-2D-0214	2/4/2014	730	46	100	0.00	11	<1		3.5		0.56		8,700	<0.05	<5	6.8		-143.10
BSA-MW-2D-F(0.2)-0214	2/4/2014							2.87		3.5		0.56					6.3	
BSA-MW-3D-0214	2/3/2014	560	42	140	0.03	2.6	<1		11		0.54		1,500	<0.05	31	4.1		-126.09
BSA-MW-3D-F(0.2)-0214	2/3/2014							2.83		11		0.53					3.7	
BSA-MW-04D-0214	2/7/2014	520	35	98	0.12	2.4	<1		6.7		0.53		270	<0.05	130	4.9		-102.26
BSA-MW-04D-F(0.2)-0214	2/7/2014							-		6.7		0.53					4.7 J	
BSA-MW-05D-0214	2/7/2014	680	50	230	0.00	15	<1		11		0.25		12,000	<0.05	<5	8.9		-138.07
BSA-MW-05D-F(0.2)-0214	2/7/2014							>3.30		12		0.26					8.7 J	
CHLOROBENZENE PROCESS AREA																		
CPA-MW-1D-0214	2/14/2014	820	<5	92	0.00	10	<1		0.55		0.079		8,300	<0.05	<5	10 J		-133.04
CPA-MW-1D-F(0.2)-0214	2/14/2014							0.25		0.28		0.049					130 J	
CPA-MW-2D-0214	2/12/2014	440	29	59 J	0.00	<1.1	<1		10		0.42		24	<0.05	56	7.9		-119.03
CPA-MW-2D-F(0.2)-0214	2/12/2014							2.02		8.4		0.42					7.3 H J	
CPA-MW-3D-0214	2/4/2014	590	6.1	350	0.00	22	<1		12		0.78		18,000	<0.05	<50	9.2		-120.25
CPA-MW-3D-F(0.2)-0214	2/4/2014							2.95		12		0.79					8.4 J	
CPA-MW-4D-0214	2/20/2014	600	29	170	0.00	12	<1		12		0.34		13,000	<0.05	<50	7.9		-138.85
CPA-MW-4D-F(0.2)-0214	2/20/2014							-		12		0.33					8.9	
CPA-MW-5D-0214	2/3/2014	530	61	260	0.12	3.9	<1		19		0.59		1,700	<0.05	87	5.2		-85.47
CPA-MW-5D-F(0.2)-0214	2/3/2014							>3.30		19		0.6					4.9	
AREA NORTH OF WGK																		
ESL-MW-A-0214	2/11/2014	270	15	68	0.00	<1.1	<1		11		0.34		2.1	0.52 J	480	4		-107.99
ESL-MW-A-F(0.2)-0214	2/11/2014							1.12		11		0.35					3.4	
ESL-MW-C1-0214	2/11/2014	330	18	99	0.00	<1.1	<1		12		0.42		2.3	<0.05	760	3.6		-116.07
ESL-MW-C1-F(0.2)-0214	2/11/2014							3.08		12		0.42					3.6	
ESL-MW-D1-0214	2/12/2014	370	31	120	0.00	<1.1	<1		16		0.41		18	<0.05	560	3.5		-113.86
ESL-MW-D1-F(0.2)-0214	2/12/2014							>3.30		16		0.4					3.5 H J	
GWE-3D-0214	2/18/2014	400	30	310	0.04	<1.1	<1		17		0.54		90	<0.05	330	4.5		-125.04
GWE-3D-F(0.2)-0214	2/18/2014							>3.30		16		0.53					4.7	
GWE-5S-0214	2/10/2014	470	52	20	0.09	<1.1	<1		0.062		0.18		0.92	0.28 J	74	2.4		114.69
GWE-5S-F(0.2)-0214	2/10/2014							<0.03		<0.05		0.18					2.5 J	
GWE-5M-0214	2/10/2014	480	38	47	0.00	<1.1	<1		24		1.3		35	<0.05	130	2.2		-138.44
GWE-5M-F(0.2)-0214	2/10/2014							2.21		24		1.3					2.2	
GWE-5D-0214	2/10/2014	350	24	90	0.00	<1.1	<1		13		0.39		53	<0.05	330	2.7		-174.47
GWE-5D-F(0.2)-0214	2/10/2014							>3.30		13		0.4					2.5	

Notes:

DO and ORP were measured in the field using an In-Situ Troll 9500 equipped with a flow-thru cell. Values presented represent final measurements before sampling.

Ferrous Iron readings were measured in the field using a Hach DR-890 Colorimeter after the groundwater passed through a 0.2 µm filter

F(0.2) = Sample was filtered utilizing a 0.2 µm filter during sample collection

H = Prepped or analyzed outside of specified holding time

J = Estimated detected value

mg/L = milligrams per liter

mV = millivolts

ug/L = micrograms per liter

< = Result is non-detect, less than the reporting limit given - indicated as a U qualifier on lab data

A blank space indicates sample not analyzed for select analyte.

Appendix A

Groundwater Purging and Sampling Forms



Troll 9000
02/13/14

Low-Flow System
ISI Low-Flow Log

Project Information:

Operator Name sj mc
Company Name URS Corporation
Project Name Solutia WGK
Site Name Quarterly Groundwater Sampling - LTM

Pump Information:

Pump Model/Type Proactive SS Monsoon
Tubing Type LDPE
Tubing Diameter 0.19 [in]
Tubing Length 31 [ft]
Pump placement from TOC 25.5 [ft]

Well Information:

Well Id BSA-MW-1S
Well diameter 2 [in]
Well total depth 27.34 [ft]
Depth to top of screen 22.5 [ft]
Screen length 60 [in]
Depth to Water 23.28 [ft]

Pumping information:

Final pumping rate 400 [mL/min]
Flowcell volume 772.84 [mL]
Calculated Sample Rate 116 [sec]
Sample rate 116 [sec]
Stabilized drawdown 0 [in]

Low-Flow Sampling Stabilization Summary

	Time	Temp [F]	pH [pH]	Cond [μ S/cm @25C]	Turb [NTU]	RDO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-0.1	+/-1	+/-0.2	+/-20
			+/-3 %	+/-10 %	+/-10 %		
Last 5 Readings	14:59:25	63.64	7.27	1994.19	11.23	0.02	-152.11
	15:01:22	63.18	7.27	1991.27	11.25	0.03	-152.35
	15:03:20	63.01	7.27	1991.27	12.86	0.05	-151.44
	15:05:17	63.00	7.28	1990.58	10.00	0.04	-152.20
	15:07:12	63.01	7.28	1991.62	9.92	0.02	-153.14
Variance in last 3 readings	15:03:20	-0.17	0.00	0.00	1.61	0.02	0.91
	15:05:17	-0.01	0.00	-0.68	-2.86	-0.02	-0.76
	15:07:12	0.01	0.00	1.04	-0.08	-0.02	-0.93

Notes:



Troll 9000
02/04/14

Low-Flow System
ISI Low-Flow Log

Project Information:

Operator Name sjmc
Company Name URS Corporation
Project Name Solutia WGK
Site Name Quarterly Groundwater Sampling - LTM

Pump Information:

Pump Model/Type Proactive SS Monsoon
Tubing Type LDPE
Tubing Diameter 0.19 [in]
Tubing Length 80.55 [ft]
Pump placement from TOC 74.55 [ft]

Well Information:

Well Id BSA-MW-2D
Well diameter 2 [in]
Well total depth 77.05 [ft]
Depth to top of screen 72.05 [ft]
Screen length 60 [in]
Depth to Water 28.3 [ft]

Pumping information:

Final pumping rate 300 [mL/min]
Flowcell volume 1049.1 [mL]
Calculated Sample Rate 210 [sec]
Sample rate 210 [sec]
Stabilized drawdown 0 [in]

Low-Flow Sampling Stabilization Summary

	Time	Temp [F]	pH [pH]	Cond [μ S/cm @25C]	Turb [NTU]	RDO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-0.1	+/-1	+/-0.2	+/-20
				+/-3 %	+/-10 %	+/-10 %	
Last 5 Readings	10:21:28	57.56	7.13	1549.14	7.85	0.05	-142.13
	10:24:58	57.74	7.15	1550.62	11.51	0.03	-142.29
	10:28:31	57.77	7.16	1550.92	1.69	0.00	-142.64
	10:32:01	57.76	7.17	1551.28	0.89	-0.01	-143.12
	10:35:33	57.85	7.18	1552.37	0.34	-0.01	-143.10
Variance in last 3 readings	10:28:31	0.03	0.02	0.31	-9.82	-0.03	-0.35
	10:32:01	-0.01	0.01	0.36	-0.80	-0.01	-0.48
	10:35:33	0.09	0.01	1.09	-0.55	-0.01	0.02

Notes:



Troll 9000
02/03/14

Low-Flow System
ISI Low-Flow Log

Project Information:

Operator Name mc sj
Company Name URS Corporation
Project Name Solutia WGK
Site Name Quarterly Groundwater Sampling - LTM

Pump Information:

Pump Model/Type Proactive SS Monsoon
Tubing Type LDPE
Tubing Diameter 0.19 [in]
Tubing Length 118.35 [ft]
Pump placement from TOC 112.35 [ft]

Well Information:

Well Id BSA-MW-3D
Well diameter 2 [in]
Well total depth 114.83 [ft]
Depth to top of screen 109.85 [ft]
Screen length 60 [in]
Depth to Water 31.38 [ft]

Pumping information:

Final pumping rate 300 [mL/min]
Flowcell volume 1259.85 [mL]
Calculated Sample Rate 252 [sec]
Sample rate 252 [sec]
Stabilized drawdown 0 [in]

Low-Flow Sampling Stabilization Summary

	Time	Temp [F]	pH [pH]	Cond [μ S/cm @25C]	Turb [NTU]	RDO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-0.1	+/-1	+/-0.2	+/-20
			+/-3 %	+/-10 %	+/-10 %		
Last 5 Readings	14:40:13	59.16	7.00	1414.30	0.69	0.10	-120.39
	14:44:27	59.26	7.01	1415.42	1.13	0.06	-123.29
	14:48:42	59.38	7.02	1415.96	2.18	0.04	-125.13
	14:52:55	58.60	7.02	1414.42	4.11	0.03	-125.94
	14:57:09	58.70	7.03	1418.21	6.93	0.03	-126.09
Variance in last 3 readings	14:48:42	0.12	0.01	0.54	1.05	-0.02	-1.84
	14:52:55	-0.77	0.01	-1.54	1.93	-0.01	-0.81
	14:57:09	0.09	0.00	3.79	2.82	0.00	-0.15

Notes:



Troll 9000

02/07/14

Low-Flow System

ISI Low-Flow Log

Project Information:

Operator Name sj mc
Company Name URS Corporation
Project Name Solutia WGK
Site Name Quarterly Groundwater Sampling - LTM

Pump Information:

Pump Model/Type Proactive SS Monsoon
Tubing Type LDPE
Tubing Diameter 0.19 [in]
Tubing Length 126.73 [ft]
Pump placement from TOC 120.73 [ft]

Well Information:

Well Id BSA-MW-4D
Well diameter 2 [in]
Well total depth 123.22 [ft]
Depth to top of screen 118.23 [ft]
Screen length 60 [in]
Depth to Water 42.52 [ft]

Pumping information:

Final pumping rate 300 [mL/min]
Flowcell volume 1306.58 [mL]
Calculated Sample Rate 262 [sec]
Sample rate 262 [sec]
Stabilized drawdown 0 [in]

Low-Flow Sampling Stabilization Summary

	Time	Temp [F]	pH [pH]	Cond [µS/cm @25C]	Turb [NTU]	RDO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-0.1	+/-1	+/-0.2	+/-20
			+/-3 %	+/-10 %	+/-10 %		
Last 5 Readings	14:54:03	56.81	7.04	1459.91	1.50	0.21	-99.64
	14:58:26	57.45	7.02	1464.71	0.77	0.15	-101.36
	15:02:50	57.68	7.02	1461.07	0.77	0.12	-102.72
	15:07:14	56.30	7.02	1460.18	0.87	0.12	-102.68
	15:11:38	56.28	7.02	1465.12	1.21	0.12	-102.26
Variance in last 3 readings	15:02:50	0.22	0.00	-3.64	-0.01	-0.03	-1.35
	15:07:14	-1.38	0.00	-0.89	0.11	0.00	0.04
	15:11:38	-0.02	0.00	4.94	0.33	0.00	0.42

Notes:



Troll 9000
02/07/14

Low-Flow System
ISI Low-Flow Log

Project Information:

Operator Name sj mc
Company Name URS Corporation
Project Name Solutia WGK
Site Name Quarterly Groundwater Sampling - LTM

Pump Information:

Pump Model/Type Proactive SS Monsoon
Tubing Type LDPE
Tubing Diameter 0.19 [in]
Tubing Length 124.04 [ft]
Pump placement from TOC 118.04 [ft]

Well Information:

Well Id BSA-MW-5D
Well diameter 2 [in]
Well total depth 121 [ft]
Depth to top of screen 115.54 [ft]
Screen length 60 [in]
Depth to Water 39.19 [ft]

Pumping information:

Final pumping rate 300 [mL/min]
Flowcell volume 1291.58 [mL]
Calculated Sample Rate 259 [sec]
Sample rate 259 [sec]
Stabilized drawdown 0 [in]

Low-Flow Sampling Stabilization Summary

	Time	Temp [F]	pH [pH]	Cond [µS/cm @25C]	Turb [NTU]	RDO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-0.1	+/-1	+/-0.2	+/-20
			+/-3 %	+/-10 %	+/-10 %		
Last 5 Readings	12:00:15	59.68	7.00	1925.45	2.71	0.04	-134.08
	12:04:37	59.78	7.02	1949.30	4.34	0.03	-135.83
	12:08:58	59.86	7.03	1950.72	5.90	0.01	-136.65
	12:13:19	59.91	7.04	1953.93	10.68	0.00	-137.08
	12:17:40	60.02	7.05	1962.84	0.99	-0.02	-138.07
Variance in last 3 readings	12:08:58	0.08	0.01	1.41	1.55	-0.01	-0.82
	12:13:19	0.05	0.01	3.22	4.78	-0.01	-0.43
	12:17:40	0.11	0.01	8.90	-9.69	-0.02	-0.99

Notes:



Troll 9000
02/14/14

Low-Flow System
ISI Low-Flow Log

Project Information:

Operator Name sj nm
Company Name URS Corporation
Project Name Solutia WGK
Site Name Quarterly Groundwater Sampling - LTM

Pump Information:

Pump Model/Type Proactive SS Monsoon
Tubing Type LDPE
Tubing Diameter 0.19 [in]
Tubing Length 73.32 [ft]
Pump placement from TOC 68.32 [ft]

Well Information:

Well Id CPA-MW-1D
Well diameter 2 [in]
Well total depth 74.69 [ft]
Depth to top of screen 65.82 [ft]
Screen length 60 [in]
Depth to Water 21.05 [ft]

Pumping information:

Final pumping rate 400 [mL/min]
Flowcell volume 1008.79 [mL]
Calculated Sample Rate 152 [sec]
Sample rate 152 [sec]
Stabilized drawdown 0 [in]

Low-Flow Sampling Stabilization Summary

	Time	Temp [F]	pH [pH]	Cond [µS/cm @25C]	Turb [NTU]	RDO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-0.1	+/-1	+/-0.2	+/-20
			+/-3 %	+/-10 %	+/-10 %		
Last 5 Readings	10:57:31	61.06	8.34	1744.05	3.02	0.00	-96.21
	11:00:04	61.04	8.39	1771.31	1.72	-0.02	-110.43
	11:02:38	61.03	8.48	1790.00	1.01	-0.03	-121.87
	11:05:11	61.19	8.53	1805.13	1.96	-0.04	-128.69
	11:07:45	61.26	8.57	1812.32	3.95	-0.05	-133.04
Variance in last 3 readings	11:02:38	-0.01	0.09	18.69	-0.71	-0.01	-11.44
	11:05:11	0.16	0.05	15.14	0.95	-0.01	-6.82
	11:07:45	0.06	0.03	7.18	1.99	-0.01	-4.35

Notes:



Troll 9000

02/12/14

Low-Flow System

ISI Low-Flow Log

Project Information:

Operator Name sj mc
Company Name URS Corporation
Project Name Solutia WGK
Site Name Quarterly Groundwater Sampling - LTM

Pump Information:

Pump Model/Type Proactive SS Monsoon
Tubing Type LDPE
Tubing Diameter 0.19 [in]
Tubing Length 108.15 [ft]
Pump placement from TOC 102.15 [ft]

Well Information:

Well Id CPA-MW-2D
Well diameter 2 [in]
Well total depth 104.66 [ft]
Depth to top of screen 99.65 [ft]
Screen length 60 [in]
Depth to Water 19.72 [ft]

Pumping information:

Final pumping rate 300 [mL/min]
Flowcell volume 1202.98 [mL]
Calculated Sample Rate 241 [sec]
Sample rate 241 [sec]
Stabilized drawdown 0 [in]

Low-Flow Sampling Stabilization Summary

	Time	Temp [F]	pH [pH]	Cond [μ S/cm @25C]	Turb [NTU]	RDO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-0.1	+/-1	+/-0.2	+/-20
				+/-3 %	+/-10 %	+/-10 %	
Last 5 Readings	14:40:22	61.50	7.16	1203.99	10.83	0.03	-117.17
	14:44:25	61.33	7.16	1203.82	10.15	0.02	-117.62
	14:48:28	61.39	7.16	1204.53	11.38	0.01	-118.13
	14:52:30	61.18	7.16	1204.24	11.62	0.00	-118.45
	14:56:33	61.21	7.16	1205.38	5.51	-0.01	-119.03
Variance in last 3 readings	14:48:28	0.05	0.00	0.71	1.23	-0.01	-0.50
	14:52:30	-0.21	0.00	-0.29	0.24	-0.01	-0.33
	14:56:33	0.03	0.00	1.13	-6.11	-0.01	-0.58

Notes:



Troll 9000
02/04/14

Low-Flow System
ISI Low-Flow Log

Project Information:

Operator Name sjmc
Company Name URS Corporation
Project Name Solutia WGK
Site Name Quarterly Groundwater Sampling - LTM

Pump Information:

Pump Model/Type Proactive SS Monsoon
Tubing Type LDPE
Tubing Diameter 0.19 [in]
Tubing Length 116.5 [ft]
Pump placement from TOC 110.5 [ft]

Well Information:

Well Id CPA-MW-3D
Well diameter 2 [in]
Well total depth 112.87 [ft]
Depth to top of screen 108 [ft]
Screen length 60 [in]
Depth to Water 23.12 [ft]

Pumping information:

Final pumping rate 300 [mL/min]
Flowcell volume 1249.54 [mL]
Calculated Sample Rate 250 [sec]
Sample rate 250 [sec]
Stabilized drawdown 0 [in]

Low-Flow Sampling Stabilization Summary

	Time	Temp [F]	pH [pH]	Cond [μ S/cm @25C]	Turb [NTU]	RDO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-0.1	+/-1	+/-0.2	+/-20
			+/-3 %	+/-10 %	+/-10 %		
Last 5 Readings	12:15:12	59.82	7.00	2118.21	9.58	0.08	-115.31
	12:19:24	59.60	6.99	2150.97	15.57	0.04	-116.50
	12:23:35	59.51	6.99	2174.74	3.57	-0.01	-118.07
	12:27:47	59.33	6.98	2178.63	8.75	-0.01	-118.60
	12:31:58	59.42	6.98	2170.42	2.76	-0.03	-120.25
Variance in last 3 readings	12:23:35	-0.09	0.00	23.77	-12.00	-0.05	-1.57
	12:27:47	-0.18	0.00	3.89	5.18	-0.01	-0.52
	12:31:58	0.09	0.00	-8.21	-5.98	-0.01	-1.66

Notes:



Troll 9000
02/20/14

Low-Flow System
ISI Low-Flow Log

Project Information:

Operator Name sj mc
Company Name URS Corporation
Project Name Solutia WGK
Site Name Quarterly Groundwater Sampling - LTM

Pump Information:

Pump Model/Type Proactive SS Monsoon
Tubing Type LDPE
Tubing Diameter 0.19 [in]
Tubing Length 124.57 [ft]
Pump placement from TOC 118.57 [ft]

Well Information:

Well Id CPA-MW-4D
Well diameter 2 [in]
Well total depth 121.03 [ft]
Depth to top of screen 116.07 [ft]
Screen length 60 [in]
Depth to Water 38 [ft]

Pumping information:

Final pumping rate 300 [mL/min]
Flowcell volume 1294.53 [mL]
Calculated Sample Rate 259 [sec]
Sample rate 259 [sec]
Stabilized drawdown 0 [in]

Low-Flow Sampling Stabilization Summary

	Time	Temp [F]	pH [pH]	Cond [µS/cm @25C]	Turb [NTU]	RDO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-0.1	+/-1	+/-0.2	+/-20
			+/-3 %	+/-10 %	+/-10 %		
Last 5 Readings	12:00:52	60.49	7.10	1678.38	11.90	-0.04	-130.61
	12:05:13	60.44	7.12	1684.68	27.44	-0.06	-133.34
	12:09:35	60.39	7.13	1687.05	2.41	-0.06	-134.45
	12:13:56	60.73	7.14	1685.39	15.36	-0.08	-136.24
	12:18:16	60.73	7.14	1694.21	-0.16	-0.10	-138.85
Variance in last 3 readings	12:09:35	-0.05	0.01	2.38	-25.03	0.01	-1.11
	12:13:56	0.34	0.01	-1.66	12.95	-0.03	-1.80
	12:18:16	0.00	0.01	8.83	-15.52	-0.02	-2.60

Notes:



Troll 9000
02/03/14

Low-Flow System
ISI Low-Flow Log

Project Information:

Operator Name mc sj
Company Name URS Corporation
Project Name Solutia WGK
Site Name Quarterly Groundwater Sampling - LTM

Pump Information:

Pump Model/Type Proactive SS Monsoon
Tubing Type LDPE
Tubing Diameter 0.19 [in]
Tubing Length 118.25 [ft]
Pump placement from TOC 112.25 [ft]

Well Information:

Well Id CPA-MW-5D
Well diameter 2 [in]
Well total depth 114.7 [ft]
Depth to top of screen 109.75 [ft]
Screen length 60 [in]
Depth to Water 33.55 [ft]

Pumping information:

Final pumping rate 300 [mL/min]
Flowcell volume 1259.3 [mL]
Calculated Sample Rate 252 [sec]
Sample rate 252 [sec]
Stabilized drawdown 0 [in]

Low-Flow Sampling Stabilization Summary

	Time	Temp [F]	pH [pH]	Cond [μ S/cm @25C]	Turb [NTU]	RDO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-0.1	+/-1	+/-0.2	+/-20
			+/-3 %	+/-10 %	+/-10 %		
Last 5 Readings	0:00:00	0.00	0.00	0.00	0.00	0.00	0.00
	11:56:53	55.75	6.69	1843.25	4.84	0.23	-49.18
	12:01:06	55.88	6.72	1910.34	1.62	0.18	-67.94
	12:05:19	56.01	6.74	1944.77	0.41	0.15	-78.49
	12:09:33	56.12	6.75	1960.16	0.07	0.12	-85.47
Variance in last 3 readings	12:01:06	0.13	0.03	67.09	-3.22	-0.04	-18.76
	12:05:19	0.13	0.01	34.43	-1.21	-0.04	-10.56
	12:09:33	0.11	0.01	15.39	-0.34	-0.03	-6.97

Notes:



Troll 9000

02/11/14

Low-Flow System

ISI Low-Flow Log

Project Information:

Operator Name sj mc
Company Name URS Corporation
Project Name Solutia WGK
Site Name Quarterly Groundwater Sampling - ESL

Pump Information:

Pump Model/Type Proactive SS Monsoon
Tubing Type LDPE
Tubing Diameter 0.19 [in]
Tubing Length 112.5 [ft]
Pump placement from TOC 107.47 [ft]

Well Information:

Well Id ESL-MW-A
Well diameter 2 [in]
Well total depth 109.96 [ft]
Depth to top of screen 105.16 [ft]
Screen length 60 [in]
Depth to Water 26.65 [ft]

Pumping information:

Final pumping rate 300 [mL/min]
Flowcell volume 1227.24 [mL]
Calculated Sample Rate 246 [sec]
Sample rate 246 [sec]
Stabilized drawdown 0 [in]

Low-Flow Sampling Stabilization Summary

	Time	Temp [F]	pH [pH]	Cond [µS/cm @25C]	Turb [NTU]	RDO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-0.1	+/-1	+/-0.2	+/-20
				+/-3 %	+/-10 %	+/-10 %	
Last 5 Readings	14:31:10	57.78	7.08	1768.37	82.12	0.03	-105.32
	14:35:16	57.92	7.07	1706.23	51.34	0.00	-105.88
	14:39:25	58.21	7.06	1669.13	25.69	-0.02	-106.87
	14:43:32	58.43	7.05	1649.28	14.95	-0.03	-107.56
	14:47:40	58.49	7.05	1646.00	9.62	-0.03	-107.99
Variance in last 3 readings	14:39:25	0.29	-0.01	-37.10	-25.65	-0.02	-0.99
	14:43:32	0.22	-0.01	-19.84	-10.74	-0.01	-0.69
	14:47:40	0.06	-0.01	-3.28	-5.33	0.00	-0.43

Notes:



Troll 9000
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Low-Flow System
ISI Low-Flow Log

Project Information:

Operator Name sj mc
Company Name URS Corporation
Project Name Solutia WGK
Site Name Quarterly Groundwater Sampling - ESL

Pump Information:

Pump Model/Type SS Monsoon
Tubing Type LDPE
Tubing Diameter 0.19 [in]
Tubing Length 111.19 [ft]
Pump placement from TOC 106.19 [ft]

Well Information:

Well Id ESL-MW-C1
Well diameter 2 [in]
Well total depth 109.95 [ft]
Depth to top of screen 103.7 [ft]
Screen length 60 [in]
Depth to Water 22.28 [ft]

Pumping information:

Final pumping rate 300 [mL/min]
Flowcell volume 1219.93 [mL]
Calculated Sample Rate 244 [sec]
Sample rate 244 [sec]
Stabilized drawdown 0 [in]

Low-Flow Sampling Stabilization Summary

	Time	Temp [F]	pH [pH]	Cond [µS/cm @25C]	Turb [NTU]	RDO [mg/L]	ORP [mV]
Stabilization Settings			+/-0	+/-0	+/-0	+/-0	+/-0
Last 5 Readings	12:30:44	55.78	7.10	2227.14	23.32	0.01	-113.34
	12:34:50	55.91	7.08	2234.55	18.76	0.00	-114.28
	12:38:57	55.84	7.08	2243.81	12.79	-0.02	-114.94
	12:43:03	55.82	7.07	2251.63	10.49	-0.03	-115.63
	12:47:11	55.79	7.06	2257.28	9.75	-0.03	-116.07
Variance in last 3 readings	12:38:57	-0.06	-0.01	9.26	-5.98	-0.01	-0.65
	12:43:03	-0.02	-0.01	7.82	-2.29	-0.01	-0.70
	12:47:11	-0.03	0.00	5.65	-0.74	-0.01	-0.44

Notes:



Troll 9000

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Low-Flow System

ISI Low-Flow Log

Project Information:

Operator Name sj mc
Company Name URS Corporation
Project Name Solutia WGK
Site Name Quarterly Groundwater Sampling - ESL

Pump Information:

Pump Model/Type Proactive SS Monsoon
Tubing Type LDPE
Tubing Diameter 0.19 [in]
Tubing Length 121.78 [ft]
Pump placement from TOC 116.78 [ft]

Well Information:

Well Id ESL-MW-D1
Well diameter 2 [in]
Well total depth 119.33 [ft]
Depth to top of screen 113.66 [ft]
Screen length 60 [in]
Depth to Water 31.14 [ft]

Pumping information:

Final pumping rate 300 [mL/min]
Flowcell volume 1278.98 [mL]
Calculated Sample Rate 256 [sec]
Sample rate 256 [sec]
Stabilized drawdown 0 [in]

Low-Flow Sampling Stabilization Summary

	Time	Temp [F]	pH [pH]	Cond [µS/cm @25C]	Turb [NTU]	RDO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-0.1	+/-1	+/-0.2	+/-20
			+/-3 %	+/-10 %	+/-10 %		
Last 5 Readings	10:40:52	57.79	7.00	2052.90	49.66	0.02	-105.54
	10:45:11	57.82	7.03	2053.38	27.90	0.00	-108.61
	10:49:27	57.95	7.04	2050.09	15.26	0.00	-110.98
	10:53:45	57.76	7.06	2048.54	12.75	-0.01	-112.59
	10:58:03	57.99	7.07	2047.07	9.12	-0.02	-113.86
Variance in last 3 readings	10:49:27	0.13	0.02	-3.29	-12.64	-0.01	-2.37
	10:53:45	-0.19	0.02	-1.55	-2.51	-0.01	-1.61
	10:58:03	0.24	0.01	-1.47	-3.63	-0.01	-1.27

Notes:



Troll 9000
02/18/14

Low-Flow System
ISI Low-Flow Log

Project Information:

Operator Name sj mc
Company Name URS Corporation
Project Name Solutia WGK
Site Name Quarterly Groundwater Sampling - LTM

Pump Information:

Pump Model/Type Peristaltic
Tubing Type LDPE
Tubing Diameter 0.19 [in]
Tubing Length 140 [ft]
Pump placement from TOC 112 [ft]

Well Information:

Well Id GWE-3D
Well diameter 1 [in]
Well total depth 114.94 [ft]
Depth to top of screen 107.23 [ft]
Screen length 120 [in]
Depth to Water 38.5 [ft]

Pumping information:

Final pumping rate 400 [mL/min]
Flowcell volume 1380.56 [mL]
Calculated Sample Rate 208 [sec]
Sample rate 208 [sec]
Stabilized drawdown 0 [in]

Low-Flow Sampling Stabilization Summary

	Time	Temp [F]	pH [pH]	Cond [μ S/cm @25C]	Turb [NTU]	RDO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-0.1	+/-1	+/-0.2	+/-20
			+/-3 %	+/-10 %	+/-10 %		
Last 5 Readings	12:02:35	57.66	6.88	2301.89	6.51	0.08	-121.73
	12:06:04	57.69	6.90	2283.58	6.30	0.06	-123.18
	12:09:33	57.84	6.92	2274.90	6.64	0.05	-124.24
	12:13:03	57.90	6.93	2272.90	17.25	0.04	-124.83
	12:16:32	57.91	6.94	2272.37	1.92	0.04	-125.04
Variance in last 3 readings	12:09:33	0.15	0.02	-8.69	0.34	-0.01	-1.06
	12:13:03	0.06	0.01	-1.99	10.61	-0.01	-0.59
	12:16:32	0.01	0.01	-0.53	-15.34	0.00	-0.21

Notes:



Troll 9000
02/10/14

Low-Flow System
ISI Low-Flow Log

Project Information:

Operator Name mc sj
Company Name URS Corporation
Project Name Solutia WGK
Site Name Quarterly Groundwater Sampling - SUPP

Pump Information:

Pump Model/Type Proactive SS Monsoon
Tubing Type LDPE
Tubing Diameter 0.19 [in]
Tubing Length 30 [ft]
Pump placement from TOC 25.5 [ft]

Well Information:

Well Id GWE-5S
Well diameter 2 [in]
Well total depth 27.91 [ft]
Depth to top of screen 17.49 [ft]
Screen length 120 [in]
Depth to Water 22.72 [ft]

Pumping information:

Final pumping rate 300 [mL/min]
Flowcell volume 767.26 [mL]
Calculated Sample Rate 154 [sec]
Sample rate 154 [sec]
Stabilized drawdown 0 [in]

Low-Flow Sampling Stabilization Summary

	Time	Temp [F]	pH [pH]	Cond [μ S/cm @25C]	Turb [NTU]	RDO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-0.1	+/-1	+/-0.2	+/-20
				+/-3 %	+/-10 %	+/-10 %	
Last 5 Readings	12:18:56	57.47	6.76	988.84	22.99	0.16	111.49
	12:21:31	57.45	6.76	987.82	14.88	0.14	112.36
	12:24:06	57.54	6.76	988.46	13.36	0.12	113.23
	12:26:41	57.96	6.76	987.96	10.36	0.11	113.96
	12:29:17	58.03	6.76	987.88	8.39	0.09	114.69
Variance in last 3 readings	12:24:06	0.08	0.00	0.63	-1.52	-0.02	0.87
	12:26:41	0.43	0.00	-0.49	-3.00	-0.01	0.73
	12:29:17	0.06	0.00	-0.09	-1.97	-0.01	0.73

Notes:



Troll 9000
02/10/14

Low-Flow System
ISI Low-Flow Log

Project Information:

Operator Name sj mc
Company Name URS Corporation
Project Name Solutia WGK
Site Name Quarterly Groundwater Sampling - SUPP

Pump Information:

Pump Model/Type Proactive SS Monsoon
Tubing Type LDPE
Tubing Diameter 0.19 [in]
Tubing Length 52.71 [ft]
Pump placement from TOC 57.71 [ft]

Well Information:

Well Id GWE-5M
Well diameter 2 [in]
Well total depth 58.1 [ft]
Depth to top of screen 47.71 [ft]
Screen length 120 [in]
Depth to Water 22.91 [ft]

Pumping information:

Final pumping rate 300 [mL/min]
Flowcell volume 893.88 [mL]
Calculated Sample Rate 179 [sec]
Sample rate 179 [sec]
Stabilized drawdown 0 [in]

Low-Flow Sampling Stabilization Summary

	Time	Temp [F]	pH [pH]	Cond [µS/cm @25C]	Turb [NTU]	RDO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-0.1	+/-1	+/-0.2	+/-20
			+/-3 %	+/-10 %	+/-10 %		
Last 5 Readings	14:04:04	56.54	6.97	1320.42	25.02	-0.01	-137.47
	14:07:05	56.56	6.97	1313.58	24.34	-0.01	-138.10
	14:10:05	56.55	6.97	1323.86	24.23	-0.02	-138.60
	14:13:04	56.30	6.97	1323.00	29.98	-0.02	-138.97
	14:16:05	56.61	6.97	1324.10	8.84	-0.02	-138.44
Variance in last 3 readings	14:10:05	-0.01	0.00	10.28	-0.11	0.00	-0.50
	14:13:04	-0.24	0.00	-0.86	5.76	-0.01	-0.37
	14:16:05	0.30	0.00	1.09	-21.14	0.00	0.53

Notes:



Troll 9000
02/10/14

Low-Flow System
ISI Low-Flow Log

Project Information:

Operator Name sj mc
Company Name URS Corporation
Project Name Solutia WGK
Site Name Quarterly Groundwater Sampling - SUPP

Pump Information:

Pump Model/Type Proactive SS Monsoon
Tubing Type LDPE
Tubing Diameter 0.19 [in]
Tubing Length 107.52 [ft]
Pump placement from TOC 102.52 [ft]

Well Information:

Well Id GWE-5D
Well diameter 2 [in]
Well total depth 105.32 [ft]
Depth to top of screen 100.02 [ft]
Screen length 60 [in]
Depth to Water 23.3 [ft]

Pumping information:

Final pumping rate 300 [mL/min]
Flowcell volume 1199.47 [mL]
Calculated Sample Rate 240 [sec]
Sample rate 240 [sec]
Stabilized drawdown 0 [in]

Low-Flow Sampling Stabilization Summary

	Time	Temp [F]	pH [pH]	Cond [µS/cm @25C]	Turb [NTU]	RDO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.2	+/-0.1	+/-1	+/-0.2	+/-20
			+/-3 %	+/-10 %	+/-10 %		
Last 5 Readings	15:26:39	54.88	7.00	1626.40	31.57	0.05	-172.43
	15:30:39	54.98	7.02	1633.56	15.64	0.03	-174.66
	15:34:42	55.08	7.04	1635.15	9.42	0.02	-175.28
	15:38:42	54.91	7.05	1635.84	7.08	0.01	-174.87
	15:42:45	54.99	7.06	1637.04	5.86	0.00	-174.47
Variance in last 3 readings	15:34:42	0.10	0.02	1.59	-6.22	-0.01	-0.61
	15:38:42	-0.16	0.01	0.69	-2.33	-0.01	0.41
	15:42:45	0.08	0.01	1.20	-1.22	-0.01	0.41

Notes:

Appendix B

Chains-of-Custody

Savannah
5102 LaRoche Avenue

Savannah, GA 31404
phone 912.354.7858 fax 912.352.0165

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact		Project Manager: Bob Billman		Site Contact: Michael Corbett		Date: 2/3/14		COC No:										
URS Corporation		Tel/Fax: (314) 743-4108		Lab Contact: Michele Kersey		Carrier: Fed Ex		1 of 1 COCs										
1001 Highlands Plaza Drive West, Suite 300		Analysis Turnaround Time																
St. Louis, MO 63110		Calendar (C) or Work Days (W) <i>C</i>																
(314) 429-0100 Phone		TAT if different from Below <i>Standard</i>																
(314) 429-0462 FAX		<input type="checkbox"/> 2 weeks																
Project Name: 1Q14 LTM GW Sampling		<input type="checkbox"/> 1 week																
Site: Solutia WG Krummrich Facility		<input type="checkbox"/> 2 days																
P O #		<input type="checkbox"/> 1 day																
Sample Identification		Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs by 8260B	SVOCs by 8270D*	Total Fe/Mn by 6010C	Alk/CO2 by 310.1	Chloride by 325.2/Sulfate by 375.4	Dissolved Gases by RSK 175	Nitrate by 353.2	TOC by 415.1	Dissolved Fe/Mn by 6010C	DOC by 415.1	Sample Specific Notes:
CPA-MW-5D -0214	2/3/14	1230	G	Water	16													
CPA-MW-5D - F(0.2)-0214		1230	G	Water	2	X										1	1	
CPA-MW-5D-0214-MS		1230	G	Water	3													
CPA-MW-5D-0214-MSD		1230	G	Water	3													
BSA-MW-3D-0214		1505	G	Water	16													
BSA-MW-3D-F(0.2)-0214	✓	1505	G	Water	2	X										1	1	
1Q14 LTM Trip Blank # 1	2/3/14	—	—	Water	2													
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other							2	1	4	1	1	2	3	1	3	4	2	
Possible Hazard Identification							Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)											
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Isot B <input type="checkbox"/> Known							<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Live For _____ Months											
Special Instructions/QC Requirements & Comments:																		
* 2/4/14 MS/MSD Canceled per N. McMurrian J. Reynolds																		
Relinquished by: <i>Walt</i>		Company: URS		Date/Time: 2/3/14 1630		Received by:		Company:		Date/Time:								
Relinquished by:		Company:		Date/Time:		Received by:		Company:		Date/Time:								
Relinquished by:		Company:		Date/Time:		Received by: <i>Walt</i>		Company: <i>MSW</i>		Date/Time: 02/04/14 0951								

680-98280 Chain of Custody



Savannah
5102 LaRoche Avenue

Savannah, GA 31404
phone 912.354.7858 fax 912.352.0165

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact		Project Manager: Bob Billman		Site Contact: Michael Corbett		Date: 2/4/14		COC No:											
URS Corporation		Tel/Fax: (314) 743-4108		Lab Contact: Michele Kersey		Carrier: FedEx		1 of 1 COCs											
1001 Highlands Plaza Drive West, Suite 300		Analysis Turnaround Time																	
St. Louis, MO 63110		Calendar (C) or Work Days (W) <u>C</u>																	
(314) 429-0100 Phone		TAT if different from Below <u>Standard</u>																	
(314) 429-0462 FAX		<input type="checkbox"/> 2 weeks																	
Project Name: 1Q14 LTM GW Sampling		<input type="checkbox"/> 1 week																	
Site: Solutia WG Krummrich Facility		<input type="checkbox"/> 2 days																	
P O #		<input type="checkbox"/> 1 day																	
Sample Identification		Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs by 8260B	SVOCs by 8270D*	Total Fe/Mn by 6010C	Alk/CO2 by 310.1	Chloride by 325.2/Sulfate by 375.4	Dissolved Gases by RSK 175	Nitrate by 353.2	TOC by 415.1	Dissolved Fe/Mn by 6010C	DOC by 415.1	SDG No.	Sample Specific Notes:
BSA-MW-2D -0214	2/4/14	1045	G	Water	16		3	2	1	1	1	3	2	3					
BSA-MW-2D-F(0.2)-0214		1045	G	Water	2	X									I	I			
BSA-MW-2D-0214-MS		1045	G		5		3	2											
BSA-MW-2D-0214-MSD		1045	G		5		3	2											
CPA-MW-3D-0214		1240	G		16		3	2	1	1	1	3	2	3					
CPA-MW-3D-F(0.2)-0214		1240	G		2	X									1	1			
CPA-MW-3D-0214-AD		1240	G		5		3	2											
1Q14 LTM Trip Blank # 2	2/4/14			Water	2		2												
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other							2	1	4	1	1	2	3,1	3	4	2			
Possible Hazard Identification							Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)												
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Ion B <input type="checkbox"/> Known							<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Live For _____ Months												
Special Instructions/QC Requirements & Comments:																			
Relinquished by: <u>WCHT</u>		Company: URS		Date/Time: 2/4/14 8:15:00		Received by: <u>Chad Bunde</u>		Company: TAF		Date/Time: 02-05-14 0946									
Relinquished by:		Company:		Date/Time:		Received by:		Company:		Date/Time:									
Relinquished by:		Company:		Date/Time:		Received by:		Company:		Date/Time:									



680-98328 Chain of Custody

Savannah, GA 31404
phone 912.354.7858 fax 912.352.0165

TestAmerica

Client Contact		Project Manager: Bob Billman		Site Contact: Michael Corbett		COC No:	
URS Corporation		Tel/Fax: (314) 743-4108		Lab Contact: Michele Kersey		1 of 1 COCs	
1001 Highlands Plaza Drive West, Suite 300		Analysis Turnaround Time		<div style="display: flex; justify-content: space-between;"> <div> VOCs by 8260B SVOCs by 8270D* Total Fe/Mn by 6010C Alk/CO2 by 310.1 Chloride by 325.2/Sulfate by 375.4 Dissolved Gases by BSK 175 Nitrate by 353.2 TOC by 415.1 Dissolved Fe/Aln by 6010C DOC by 415.1 </div> <div> 680-98461 Chain of Custody </div> </div>		SDG No.	
St. Louis, MO 63110		Calendar (C) or Work Days (W) <u>2</u>					
(314) 429-0100 Phone		TAT if different from Below <u>Standard</u>					
(314) 429-0462 FAX		<input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day					
Project Name: 1Q14 LTM GW Sampling							
Site: Solutia WG Krummrich Facility							
P O #							
Sample Identification		Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Sample Specific Notes:
BSA-MN-05D -0214	2/7/14	1230	G	Water	16		
BSA-MN-05D F(0.2)-0214		1230	G	Water	2	X	
BSA-MN-04D - 0214		1530			16		
BSA-MN-04D - F(0.2)-0214		1530			2	X	
CPA-MN-05D-0214-EB		0830			5		
*BSA-MN-05D-0214-EB		0830			5		
REVISED ID per N. McNolden							
d. R. Rasmussen							
2/12/14							
1Q14 LTM Trip Blank # 3		2/7/14	00:00	G	Water	2	
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other							
Possible Hazard Identification							
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Ion B <input type="checkbox"/> Known							
Special Instructions/QC Requirements & Comments:							
Relinquished by: <u>McCall</u>		Company: URS	Date/Time: 2/7/14 1600	Received by:		Company:	Date/Time:
Relinquished by:		Company:	Date/Time:	Received by:		Company:	Date/Time:
Relinquished by:		Company:	Date/Time:	Received by: <u>Shaykh</u>		Company: TA 82	Date/Time: 02/08/14 1024

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880-98461 Chain of Custody



680-98461
6.6°C

Savannah
5102 LaRoche Avenue

Savannah, GA 31404
phone 912.354.7858 fax 912.352.0165

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact		Project Manager: Bob Billman		Site Contact: Michael Corbett		Date: 2/10/14		COC No:										
URS Corporation		Tel/Fax: (314) 743-4108		Lab Contact: Michele Kersey		Carrier: FedEx		1 of 1 COCs										
1001 Highlands Plaza Drive West, Suite 300		Analysis Turnaround Time																
St. Louis, MO 63110		Calendar (C) or Work Days (W) <u>C</u>																
(314) 429-0100 Phone		TAT if different from Below <u>Standard</u>																
(314) 429-0462 FAX		<input type="checkbox"/> 2 weeks																
Project Name: 1Q14 LTM GW Sampling		<input type="checkbox"/> 1 week																
Site: Solutia WG Krummrich Facility		<input type="checkbox"/> 2 days																
P O #		<input type="checkbox"/> 1 day																
Sample Identification		Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs by 8260B	Total Fe/Mn by 6010C	Alk/CO2 by 310.1	Chloride by 325.2/Sulfate by 375.4	Dissolved Gases by RSK 175	Nitrate by 353.2	TOC by 415.1	Dissolved Fe/Mn by 6010C	DOC by 415.1	SDG No.	Sample Specific Notes:
GWE-5S-0214	2/10/14	1235	G	Water	14			3	1	1	1	3	2	3				
GWE-5S-F(0.2)-0214		1235	G	Water	2	X									1	1		
GWE-5M-0214		1425	G	Water	14			3	1	1	1	3	2	3				
GWE-5M-F(0.2)-0214		1425	G	Water	2	X									1	1		
GWE-5D-0214		1555	G	Water	14			3	1	1	1	3	2	3				
GWE-5D-F(0.2)-0214		1555	G	Water	2	X									1	1		
GWE-3D-0214			G	Water	14	X		3	1	1	1	3	2	3				
GWE-3D-F(0.2)-0214			G	Water	2	X									1	1		
1Q14 LTM Trip Blank # 4	2/10/14			Water	2			2										
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other							2	4	1	1	2	3,1	3	4	2			
Possible Hazard Identification							Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)											
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Ison B <input type="checkbox"/> known							<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months											
Special Instructions/QC Requirements & Comments:																		
2.2°C																		
Relinquished by: <u>[Signature]</u>		Company: URS		Date/Time: 2/10/14 1630		Received by: <u>[Signature]</u>		Company: TRS		Date/Time: 02-11-14 1008								
Relinquished by:		Company:		Date/Time:		Received by:		Company:		Date/Time:								
Relinquished by:		Company:		Date/Time:		Received by:		Company:		Date/Time:								



680-98489 Chain of Custody

Savannah
5102 LaRoche Avenue

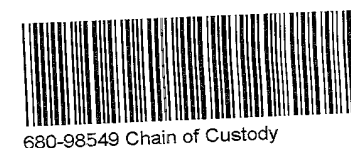
Savannah, GA 31404
phone 912.354.7858 fax 912.352.0165

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact		Project Manager: Bob Billman		Site Contact: Michael Corbett		Date: 2/11/14		COC No:										
URS Corporation		Tel/Fax: (314) 743-4108		Lab Contact: Michele Kersey		Carrier: Fed Ex		1 of 1 COCs										
1001 Highlands Plaza Drive West, Suite 300		Analysis Turnaround Time																
St. Louis, MO 63110		Calendar (C) or Work Days (W) <u>C</u>																
(314) 429-0100 Phone		TAT if different from Below <u>Standard</u>																
(314) 429-0462 FAX		<input type="checkbox"/> 2 weeks																
Project Name: 1Q14 LTM GW Sampling		<input type="checkbox"/> 1 week																
Site: Solutia WG Krummrich Facility		<input type="checkbox"/> 2 days																
P O #		<input type="checkbox"/> 1 day																
Sample Identification		Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs by 8260B	Total Fe/Mn by 6010C	Alk/CO2 by 310.1	Chloride by 325.2/Sulfate by 375.4	Dissolved Gases by RSK 175	Nitrate by 353.2	TOC by 415.1	Dissolved Fe/Mn by 6010C	DOC by 415.1	Sample Specific Notes:	
ESL-MW-A-0214		2/11/14	1500	G	Water	14		3	1	1	1	3	2	3				
ESL-MW-A-F(0.2)-0214			1500	G	Water	2	X								1	1		
ESL-MW-C1-0214			1255	G	Water	14		3	1	1	1	3	2	3				
ESL-MW-C1-F(0.2)-0214		↓	1255	G	Water	2	X								1	1		
ESL-MW-D1-0214 <i>mc</i>				G	Water	14		3	1	1	1	3	2	3				
ESL-MW-D1-F(0.2)-0214 <i>mc</i>				G	Water	2	X								1	1		
				G	Water	14		3	1	1	1	3	2	3				
				G	Water	2	X								1	1		
1Q14 LTM Trip Blank # 5		2/11/14	—	—	Water	2		2										
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other								2	4	1	1	2	3,1	3	4	2		
Possible Hazard Identification							Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)											
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Ison B <input type="checkbox"/> known							<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months											
Special Instructions/QC Requirements & Comments:																		
Relinquished by: <i>Tricht</i>		Company: URS		Date/Time: 2/11/14 1600		Received by: <i>Chris Bouda</i>		Company: TIAS		Date/Time: 02-12-14 11:11								
Relinquished by:		Company:		Date/Time:		Received by:		Company:		Date/Time:								
Relinquished by:		Company:		Date/Time:		Received by:		Company:		Date/Time:								



680-98549 Chain of Custody

Savannah, GA 31404
phone 912.354.7858 fax 912.352.0165

TestAmerica

Client Contact		Project Manager: Bob Billman		Site Contact: Michael Corbett		COC No:	
URS Corporation		Tel/Fax: (314) 743-4108		Lab Contact: Michele Kersey		Carrier: <u>FedEx</u>	
1001 Highlands Plaza Drive West, Suite 300		Analysis Turnaround Time		<div style="display: flex; flex-direction: row;"> <div style="flex: 1;"> <p>Calendar (C) or Work Days (W) <u>C</u></p> <p>TAT if different from Below <u>Standard</u></p> <p><input type="checkbox"/> 2 weeks</p> <p><input type="checkbox"/> 1 week</p> <p><input type="checkbox"/> 2 days</p> <p><input type="checkbox"/> 1 day</p> </div> <div style="flex: 1;"> <p>Filtered Sample</p> <p>VOCs by 8260B</p> <p>SVOCs by 8270D*</p> <p>Total Fe/Mn by 6010C</p> <p>Alk/CO2 by 310.1</p> <p>Chloride by 325.2/Sulfate by 375.4</p> <p>Dissolved Gases by RSK 175</p> <p>Nitrate by 353.2</p> <p>TOC by 415.1</p> <p>Dissolved Fe/Mn by 6010C</p> <p>DOC by 415.1</p> </div> </div>		1 of 1 COCs	
St. Louis, MO 63110						21563600.00001	
(314) 429-0100 Phone						SDG No	
(314) 429-0462 FAX							
Project Name: 1Q14 LTM GW Sampling							
Site: Solutia WG Krummrich Facility							
P O #							
Sample Identification		Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Sample Specific Notes:
CPA-MW-2D -0214	2/12/14	1510	G	Water	16		
CPA-MW-2D F(0.2)-0214	↓	1510	G	Water	2	X	
CPA-MW-2D-0214-AD	↓	1510	G	↓	5	3 2	
ESL-MW-D1-0214	↓	1105	G	↓	14	3 / 1 1 1 3 2 3	
ESL-MW-D1-F(0.2)-0214	↓	1105	G	↓	2		1 1
IQ14 LTM Trip Blank # 6		2/12/14	—	Water	2	2	
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other						2 1 4 1 1 2 3 1 3 4 2	
Possible Hazard Identification						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Ion B <input type="checkbox"/> Known						<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Give For _____ Months	
Special Instructions/QC Requirements & Comments:							
Relinquished by: <u>WCLT</u>		Company: URS		Date/Time: 2/12/14 1600		Received by: <u>Olivia Banda</u>	
Relinquished by:		Company:		Date/Time:		Company: TAS	
Relinquished by:		Company:		Date/Time:		Date/Time: 02-13-14 0940	
Relinquished by:		Company:		Date/Time:		Date/Time:	

Page 31 of 33

[illegible]

680-98575 Chain of Custody

20°C

15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

Savannah
5102 LaRoche Avenue


Savannah, GA 31404
phone 912.354.7858 fax 912.352.0165

Chain of Custody Record

TestAmerica

THE QUALITY CONNECTION

TestAmerica Laboratories, Inc.

Client Contact		Project Manager: Bob Billman		Site Contact: Michael Corbett		2/13/14		COC No:													
URS Corporation		Tel/Fax: (314) 743-4108		Lab Contact: Michele Kersey		Carrier: FedEx		1 of 1 COCs													
1001 Highlands Plaza Drive West, Suite 300		Analysis Turnaround Time						21563600.00001													
St. Louis, MO 63110		Calendar (C) or Work Days (W) C						SDG No													
(314) 429-0100 Phone		TAT if different from Below Standard																			
(314) 429-0462 FAX		<input type="checkbox"/> 2 weeks																			
Project Name: 1Q14 LTM GW Sampling		<input type="checkbox"/> 1 week																			
Site: Solutia WG Krummrich Facility		<input type="checkbox"/> 2 days																			
P O #		<input type="checkbox"/> 1 day																			
Sample Identification		Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs by 8260B	SVOCs by 8270D*	Total Fe/Mn by 6010C	Alt/CO2 by 310.1	Chloride by 325.2/Sulfate by 375.4	Dissolved Gases by RSK 175	Nitrate by 353.2	TOC by 415.1	Dissolved Fe/Mn by 6010C	DOC by 415.1	Sample Specific Notes:			
BSA-MW-OIS -0214		2/13/14	1515	G	Water	16		3	2	1	1	1	3	2	3					680-98624 Chain of Custody 	
BSA-MW-OIS-F(0.2)-0214			1515	G	Water	2	X									1	1				
CPA-MW-OID-0214				G		16		3	2	1	1	1	3	2	3						mc
CPA-MW-OID-F(0.2)-0214				G		2	X									1	1				mc
BSA-MW-OIS-0214-EB		2/13/14	1345	G	Water	5		3	2												
1Q14 LTM Trip Blank # 7		2/13/14			Water	2		2													
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other							2 1 4 1 1 2 3 1 3 4 2														
Possible Hazard Identification							Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)														
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Ion B <input type="checkbox"/> known							<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Give For _____ Months														
Special Instructions/QC Requirements & Comments:																					
Relinquished by: helt		Company: URS		Date/Time: 2/13/14 1630		Received by:		Company:		Date/Time:											
Relinquished by:		Company:		Date/Time:		Received by:		Company:		Date/Time:											
Relinquished by:		Company:		Date/Time:		Received by: helt		Company: TA		Date/Time: 02/14/14 1007											

Savannah, GA 31404
phone 912.354.7858 fax 912.352.0165

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

COC No:

680-98660 Chain of Custody

5102 LaRoche Avenue

phone 912.354.7858 fax 912.352.0165

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

[illegible]

Savannah, GA 31404
phone 912.354.7858 fax 912.352.0165

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Contact						Project Manager: Bob Billman							Site Contact: Michael Corbett								Date: 2/20/14 COC No:										
URS Corporation						Tel/Fax: (314) 743-4108							Lab Contact: Michele Kersey								Carrier: FedEx 1 of 1 COCs										
1001 Highlands Plaza Drive West, Suite 300						Analysis Turnaround Time Calendar (C) or Work Days (W) <u>C Standard</u> TAT if different from Below: <input type="checkbox"/> 2 weeks <input checked="" type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day															21563600.00001										
St. Louis, MO 63110													SDG No.																		
(314) 429-0100 Phone																															
(314) 429-0462 FAX																															
Project Name: 1Q14 LTM GW Sampling																															
Site: Solutia WG Krummrich Facility																															
P O #																															
Sample Identification						Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs by 8260B	SVOCs by 8270D*	Total Fe/Mn by 6010C	Alk/CO2 by 310.1	Chloride by 325.2/Sulfate by 375.4	Dissolved Gases by RSK 175	Nitrate by 353.2	TOC by 415.1	Dissolved Fe/Mn by 6010C	DOC by 415.1	Sample Specific Notes:									
CPA-MW-4D -0214						2/20/14	1230	G	Water	16		3	2	1	1	1	3	2	3												
CPA-MW-4DF(0.2)-0214						2/20/14	1230	G	Water	2	X								1	1											
1Q14 LTM Trip Blank # 10						2/20/14	-	-	Water	2		2						3	4	2											
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____											2	1	4	1	1	1	3,1	3	4	2											
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Ion B <input type="checkbox"/> Known											Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Give For _____ Months																				
Special Instructions/QC Requirements & Comments:																															
Relinquished by: [Signature] Company: URS Date/Time: 2/20/14 / 630 Received by: [Signature] Company: TMS SW Date/Time: 02/21/14 0926																															

Appendix C

Quality Assurance Report

QUALITY ASSURANCE REPORT

Solutia Inc.
W.G. Krummrich Facility
Sauget, Illinois

Long-Term Monitoring Program 1st Quarter 2014 Data Report

Prepared for

Solutia Inc.
575 Maryville Centre Drive
St. Louis, MO 63141

May 2014



URS Corporation
1001 Highland Plaza Drive West, Suite 300
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Project # 21563600

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1.0 INTRODUCTION

This Quality Assurance Report presents the findings of a review of analytical data for groundwater samples collected in February of 2014 at the Solutia W.G. Krummrich plant as part of the 1st Quarter 2014 Long-Term Monitoring Program (LTMP). The samples were collected by URS Corporation personnel and analyzed by TestAmerica Laboratories, Inc., located in Savannah, Georgia, using USEPA methods, standard methods, and USEPA SW-846 methodologies. Groundwater samples were tested for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), total and dissolved metals, dissolved gasses, and general chemistry parameters.

One hundred percent of the data were subjected to a Level III data quality review. The Level III data reviews were performed in order to confirm that the analytical data provided by TestAmerica Savannah were acceptable in quality for their intended use.

A total of twenty-one groundwater samples (seventeen investigative samples, two field duplicate pair, and one MS/MSD pair) were prepared and analyzed by TestAmerica Savannah for combinations of VOCs, SVOCs, dissolved gases, metals, and general chemistry. Additionally, two equipment blanks were collected and analyzed by TestAmerica. Ten trip blank sets were included in the coolers that contained groundwater VOC samples and were analyzed for VOCs by USEPA SW-846 Method 8260B. These samples were analyzed as ten sample delivery groups (SDGs) KPS106 through KPS115, utilizing the following USEPA SW-846 Methods:

- Method 8260B for VOCs (Benzene, Chlorobenzene, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, and 1,4-Dichlorobenzene)
- Method 8270D for SVOCs (4-Chloroaniline, 2-Chlorophenol, 1,2,4-Trichlorobenzene, and 1,4-Dioxane)
- Method 6010C for total and dissolved iron and manganese

Samples were also analyzed for MNA parameters by the following methods:

- Method RSK-175 for Dissolved Gasses (Ethane, Ethylene, and Methane)
- USEPA Method 310.1 for Alkalinity and Free Carbon Dioxide
- USEPA Method 325.2 for Chloride
- USEPA Method 353.2 for Nitrogen, Nitrate
- USEPA Method 375.4 for Sulfate
- USEPA Method 415.1 for Total and Dissolved Organic Carbon

Samples were reviewed following procedures outlined in the USEPA Contract Laboratory Program

National Functional Guidelines for Superfund Organic Methods Data Review (USEPA 2008), USEPA Contract Laboratory Program National Functional Guidelines for Superfund Inorganic Data Review (USEPA 2010), and the Revised LTMP Work Plan (Solutia 2009).

The above guidelines provided the data review criteria. Additional quantitative criteria are given in the analytical methods. Qualifiers assigned by the data reviewer have been applied to the laboratory report. The qualifiers indicate data that did not meet acceptance criteria and corrective actions were not successful or not performed. The various qualifiers are explained in **Tables 1** and **2** below.

TABLE 1 Laboratory Data Qualifiers

Lab Qualifier	Definition
U	Analyte was not detected at or above the reporting limit.
*	LCS, LCSD, MS, MSD, MD, or surrogate exceeds the control limits.
E	Result exceeded the calibration range, secondary dilution required.
D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution will be flagged with a D.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
X	Spike recovery exceeds upper or lower control limits.
F	MS, MSD, or RPD exceeds upper or lower control limits.
P	The difference between the results of the two GC columns is greater than 40%
H	Sample was prepped or analyzed beyond the specified holding time.
B	Compound was found in the blank and sample.
4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
^	ICV, CCV, ICB, CCB, ISA, ISB, CRI, CRA, DLCK, or MRL standard: Instrument related QC exceeds the control limits.

TABLE 2 URS Data Qualifiers

	Definition
U	The analyte was analyzed for but was not detected.
J	The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
UJ	The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
R	The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Based on the criteria outlined, it is recommended that the results reported for these analyses are accepted for their intended use. Acceptable levels of accuracy, precision, and representativeness (based on MS/MSD, LCS, surrogate compounds and field duplicate results) were achieved for this data set, except where noted in this report.

The data review included evaluation of the following criteria:

Organics

- Receipt condition and sample holding times
- Laboratory method blanks, field equipment blanks, and trip blank samples
- Surrogate spike recoveries
- Laboratory control sample (LCS) recoveries
- Matrix spike/matrix spike duplicate (MS/MSD) sample recoveries and relative percent difference (RPD) values
- Field duplicate results
- Results reported from dilutions
- Internal standard (IS) recoveries

Inorganics/General chemistry

- Receipt condition and sample holding times
- Laboratory method blank and field equipment blank samples
- LCS recoveries

- MS/MSD sample recoveries and matrix duplicate RPD values
- Field duplicate and laboratory duplicate results
- Results reported from dilutions

The following sections present the results of the data review.

2.0 RECEIPT CONDITION AND SAMPLE HOLDING TIMES

Sample holding time requirements for the analyses performed are presented in the methods and/or in the data review guidelines. Review of the sample collection, extraction, and analysis dates involved comparing the chain-of-custody (COC) and the laboratory data summary forms for accuracy, consistency, and holding time compliance.

The cooler receipt forms for SDGs KPS107, KPS108, KPS112, KPS113, and KPS114 indicated that coolers were received by the laboratory at temperatures below the $4^{\circ}\text{C} \pm 2^{\circ}\text{C}$ criteria. The samples were received in good condition; therefore no qualification of data was required.

The receipt forms for SDGs KPS107, KPS108, KPS109, KPS112, and KPS113 indicated pH > 2 for dissolved organic carbon in several samples; please see Section 10.0 of this report for qualifications.

Additionally, the equipment blank, BSA-MW-5D-0214-EB, was inadvertently labeled incorrectly on the COC and on sample ID labels. URS contacted the laboratory; no qualification of data was required. The laboratory report for SDG KPS109 was revised and re-issued on March 7, 2014 to include the case narrative which had not been included with the original report. In SDG KPS1111, the cooler receipt form indicated that the laboratory report was revised and re-issued on March 13, 2014 to correct a laboratory transcription error for sample ID ESL-MW-D1-0214, and to flag samples CPA-MW-2D-F(0.2)-0214 and ESL-MW-D1-F(0.2)-0214 outside holding time criteria for dissolved organic carbon analysis.

Samples CPA-MW-2D-F(0.2)-0214 and ESL-MW-D1-F(0.2)-0214 were field filtered; however, these samples were laboratory preserved and analyzed for dissolved organic carbon approximately two days outside the two hour hold time for preservation. Analytical data that required qualification based on holding time criteria are included in the table below.

Sample ID	Parameter	Analyte	Qualification
CPA-MW-2D-F(0.2)-0214	General chemistry	Dissolved organic carbon	J
ESL-MW-D1-F(0.2)-0214	General chemistry	Dissolved organic carbon	J

Samples BSA-MW-1S-0214, CPA-MW-1D-0214, and equipment blank BSA-MW-1S-0214-EB were re-extracted for SVOCs three days outside the seven day hold time for extraction due to

LCS recoveries outside evaluation criteria. SVOC data from the original extraction and analysis was used to qualify data. No further qualification of data was required.

3.0 TRIP BLANKS, LABORATORY METHOD BLANK AND EQUIPMENT BLANK SAMPLES

Trip blank samples are used to assess VOC cross contamination of samples during shipment to the laboratory. Trip blanks were submitted with each cooler shipped containing VOC samples for a total of six trip blank sample sets. Trip blank results were non-detect.

Laboratory method blank samples evaluate the existence and magnitude of contamination problems resulting from laboratory activities. Laboratory method blank samples were analyzed at the method prescribed frequencies. Method blank results were non-detect.

Equipment blank samples are used to assess the effectiveness of equipment decontamination procedures. The equipment blank results were non-detect, except as summarized in the table below.

Blank ID	Parameter	Analyte	Concentration/Amount
BSA-MW-1S-0214-EB	VOCs	Chlorobenzene	3.2 ug/L
BSA-MW-1S-0214-EB	VOCs	1,4-Dichlorobenzene	3.4 ug/L

Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not required qualification. No qualification of data was required.

4.0 SURROGATE SPIKE RECOVERIES

Surrogate compounds are used to evaluate overall laboratory performance for sample preparation efficiency on a per sample basis. VOC samples were spiked with surrogate compounds during sample preparation. USEPA National Functional Guidelines for Superfund Organic Methods Data Review state how data is qualified, if surrogate spike recoveries do not meet acceptance criteria. Surrogate spike recoveries were within evaluation criteria, except as summarized in the table below.

Sample ID	Parameter	Surrogate	Recovery	Criteria
BSA-MW-1S-0214 Run#2	SVOCs	2-Fluorobiphenyl	37	38-130

SVOC data from the original extraction and analysis was used to qualify data. No qualification of SVOC data was required based on surrogate recoveries outside evaluation criteria. Additionally, surrogates were diluted out and not recovered in SVOC analysis of field duplicate pair CPA-MW-2D-0214/CPA-MW-2D-0214-AD. No qualification of data is required.

5.0 LABORATORY CONTROL SAMPLE RECOVERIES

Groundwater LCSs were analyzed with each analytical batch to assess the accuracy of the analytical process. LCS recoveries were within evaluation criteria, except as summarized in the table below.

LCS/LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD/ RPD Criteria
680-315441/5/6	General chemistry	Methane	77/106	32	75-125/30
680-315638/7/8-A	SVOCs	4-Chloroaniline	14/12	14	42-130/50
680-315033/14	General chemistry	Nitrate	111	NA	90-110
680-315374/14	General chemistry	Nitrate	111	NA	90-110
680-315170/14	General chemistry	Nitrate	111	NA	90-110
680-316409/5/6-A	SVOCs	4-Chloroaniline	4/60	173	42-130/50
680-315764/14	General chemistry	Nitrate	113	NA	90-110
680-316042/14	General chemistry	Nitrate	112	NA	90-110

Analytical data that required qualification based on LCS data are included in the table below. The compound 4-chloroaniline is not reported for the associated samples. Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Sample ID	Parameter	Analyte	Qualification
GWE-5S-0214	General chemistry	Nitrate	J
ESL-MW-A-0214	General chemistry	Nitrate	J

6.0 MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) SAMPLES

MS/MSD samples are analyzed to assess the accuracy and precision of the analytical process on an analytical sample in a particular matrix. MS/MSD samples were collected at a frequency of one per 20 investigative samples, in accordance with the work plan. URS Corporation submitted one MS/MSD sample set for 20 investigative samples, which met the work plan frequency requirement. The laboratory spiked and analyzed groundwater sample BSA-MW-2D-0214 for VOCs, SVOCs, metals, and nitrate. Although not requested for MS/MSD analyses, the laboratory spiked groundwater samples CPA-MW-5D-F(0.2)-0214, CPA-MW-3D-0214, BSA-MW-2D-F(0.2)-0214, BSA-MW-4D-F(0.2)-0214, BSA-MW-4D-0214, BSA-MW-5D-0214, GWE-5S-0214, GWE-5S-F(0.2)-0214, CPA-MW-2D-0214, GWE-3D-F(0.2)-0214, and CPA-MW-4D-0214 for various parameters as discussed further in the data review in **Appendix D**.

USEPA National Functional Guidelines for Organic Data Review indicates that organic data does not require qualification based on MS/MSD data alone. Therefore, if recoveries were outside

evaluation criteria due to matrix interference or abundance of analytes, no qualifiers were assigned unless these analytes had other quality control criteria outside evaluation criteria. MS/MSD recoveries outside evaluation criteria are summarized in the table below.

Groundwater samples spiked and analyzed as MS/MSDs and their respective recoveries were within evaluation criteria with the exceptions summarized in the following table.

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery	RPD	MS/MSD/ RPD Criteria
BSA-MW-2D-0214	VOCs	Benzene	24/34	6	74-123/30
BSA-MW-2D-0214	SVOCs	4-Chloroaniline	26/19	13	42-130/50
BSA-MW-2D-0214	General chemistry	Nitrate	110/ 111	0	90-110/10
BSA-MW-5D-0214	General chemistry	Nitrate	110/ 111	0	90-110/10
CPA-MW-2D-0214	General chemistry	Chloride	80/81	0	85-115/30

Analytical data that required qualification based on MS/MSD data are included in the table below. USEPA National Functional Guidelines for Organic Data Review indicates that organic data does not require qualification based on MS/MSD data alone. Analytical data reported as non-detect and associated with MS/MSD recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Sample ID	Parameter	Analyte	Qualification
CPA-MW-2D-0214	General chemistry	Chloride	J

7.0 FIELD DUPLICATE RESULTS

Field duplicate results are used to evaluate precision of the entire data collection activity, including sampling, analysis, and site heterogeneity. When results for both duplicate and sample values are greater than five times the practical quantitation limit (PQL), satisfactory precision is indicated by an RPD less than or equal to 25 percent for aqueous samples. Where one or both of the results of a field duplicate pair are reported at less than five times the PQL, satisfactory precision is indicated if the field duplicate results agree within two times the quantitation limit. Field duplicate results that do not meet these criteria may indicate unsatisfactory precision of the results.

Two pairs of field duplicate samples were collected for the seventeen investigative groundwater samples. This satisfies the requirement in the work plan (one per ten investigative samples or ten percent). Groundwater field duplicate RPDs were within evaluation criteria. No qualification of data was required.

8.0 INTERNAL STANDARD RESPONSES

Internal standard (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during each analytical run. IS areas must be within -50 percent to +100 percent for VOCs. The internal standards area responses for VOCs were verified for the data review. VOC IS responses met the criteria as described above for groundwater samples with the exceptions summarized in the following table.

Sample ID	Parameter	Analyte	IS Area Recovery	IS Criteria
BSA-MW-4D-0214	SVOCs	Perylene-d ₁₂	779036	1352113-5408452
1Q14 LTM Trip Blank #7	VOCs	1,2-Dichloroethane-d ₄	60712	148828-595310
1Q14 LTM Trip Blank #7	VOCs	1,4-Difluorobenzene	129756	336021-1344082
1Q14 LTM Trip Blank #7	VOCs	Chlorobenzene-d ₅	75927	183087-732346

Sample BSA-MW-4D-0214 did not have analytical data associated with internal standard perylene-d₁₂. Sample 1Q14 LTM Trip Blank #7 is a quality control sample and is not qualified. No qualification of data was required.

9.0 RESULTS REPORTED FROM DILUTIONS

VOC, SVOC, chloride, sulfate, and dissolved organic carbon results for groundwater samples were diluted due to high levels of target analytes. The diluted sample results for these analytes were reported for the associated samples.

10.0 ADDITIONAL QUALIFICATIONS

The following samples are qualified, as summarized below, due to pH > 2.

Sample ID	Parameter	Analyte	Qualification
CPA-MW-3D-F(0.2)-0214	General chemistry	Dissolved organic carbon	J
BSA-MW-5D-F(0.2)-0214	General chemistry	Dissolved organic carbon	J
BSA-MW-4D-F(0.2)-0214	General chemistry	Dissolved organic carbon	J
GWE-5S-F(0.2)-0214	General chemistry	Dissolved organic carbon	J
BSA-MW-1S-F(0.2)-0214	General chemistry	Dissolved organic carbon	J
CPA-MW-1D-F(0.2)-0214	General chemistry	Dissolved organic carbon	J

Additionally, the following samples are qualified, as summarized below, due to instrument calibration outside evaluation criteria for nitrate.

Sample ID	Parameter	Analyte	Qualification
BSA-MW-5D-0214	General chemistry	Nitrate	UJ
BSA-MW-4D-0214	General chemistry	Nitrate	UJ
GWE-5M-0214	General chemistry	Nitrate	UJ
GWE-5D-0214	General chemistry	Nitrate	UJ
ESL-MW-C1-0214	General chemistry	Nitrate	UJ
BSA-MW-1S-0214	General chemistry	Nitrate	UJ

Sample ID	Parameter	Analyte	Qualification
CPA-MW-1D-0214	General chemistry	Nitrate	UJ
CPA-MW-4D-0214	General chemistry	Nitrate	UJ

Analytical data requiring qualification based on dissolved organic carbon results greater than total organic carbon results in samples CPA-MW-1D-F(0.2)-0214/CPA-MW-1D-0214, respectively, are included in the table below. Dissolved organic carbon results in sample CPA-MW-1D-F(0.2)-0214 were previously qualified due to pH > 2, no further qualification was required.

Sample ID	Parameter	Analyte	Qualification
CPA-MW-1D-0214	General chemistry	Total organic carbon	J

Appendix D

Groundwater Analytical Results

(with Data Review Reports)

Solutia Krummrich Data Review WGK LTM 1Q14

Laboratory SDG: KPS106

Data Reviewer: Elizabeth Kunkel

Peer Reviewer: Steve Gragert

Date Reviewed: 2/28/2014

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2008. USEPA National Functional Guidelines for Superfund Inorganic Data Review 2010

Work Plan: Revised Long-Term Monitoring Program (LTMP) Work Plan (Solutia 2009)

Sample Identification	
CPA-MW-5D-0214	CPA-MW-5D-F(0.2)-0214
BSA-MW-3D-0214	BSA-MW-3D-F(0.2)-0214
1Q14 LTM Trip Blank #1	

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated samples CPA-MW-5D-0214 and BSA-MW-3D-0214 were diluted due to high levels of VOCs, chloride, and sulfate. The LCS/LCSD RPD for methane was outside evaluation criteria. These issues are discussed further in the appropriate sections below.

No problems were indicated in the cooler receipt form.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

No

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	LCS/LCSD RPD	LCS/LCSD Criteria
680-315441/5/6	General chemistry	Methane	77/106	32	75-125/30

Analytical data associated with RPD alone outside evaluation criteria, does not require qualification. No qualification of data was required.

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples collected as part of this SDG?

Although not requested, sample CPA-MW-5D-F(0.2)-0214 was spiked and analyzed for dissolved organic carbon.

Were MS/MSD recoveries within evaluation criteria?

Yes

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

10.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

11.0 Additional Qualifications

Were additional qualifications applied?

No

SDG KPS106

Results of Samples from Monitoring Wells:

BSA-MW-3D

CPA-MW-5D

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

TestAmerica Job ID: 680-98280-1
TestAmerica Sample Delivery Group: KPS106
Client Project/Site: WGK Long Term Monitoring - 1Q14

For:
Solutia Inc.
575 Maryville Centre Dr.
Saint Louis, Missouri 63141

Attn: Mr. Jerry Rinaldi

Michele R. Kersey

Authorized for release by:
2/19/2014 3:54:02 PM

Michele Kersey, Project Manager I
(912)354-7858
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*Reviewed
on*

FEB 28 2014

EKR

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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FEB 28 2014

ETK

Case Narrative

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98280-1
SDG: KPS106

Job ID: 680-98280-1

Laboratory: TestAmerica Savannah

Narrative

CASE NARRATIVE

Client: Solutia Inc.

Project: WGK Long Term Monitoring - 1Q14

Report Number: 680-98280-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT

The samples were received on 2/4/2014 9:51 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.4° C.

VOLATILE ORGANIC COMPOUNDS (GC-MS)

Samples CPA-MW-5D-0214 (680-98280-1), BSA-MW-3D-0214 (680-98280-3) and 1Q14 LTM Trip Blank #1 (680-98280-5) were analyzed for Volatile Organic Compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 02/05/2014.

Samples CPA-MW-5D-0214 (680-98280-1)[20X] and BSA-MW-3D-0214 (680-98280-3)[50X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No difficulties were encountered during the volatiles analysis.

All quality control parameters were within the acceptance limits.

SEMIVOLATILE ORGANIC COMPOUNDS (AQUEOUS)

Samples CPA-MW-5D-0214 (680-98280-1) and BSA-MW-3D-0214 (680-98280-3) were analyzed for Semivolatile Organic Compounds (Aqueous) in accordance with EPA SW-846 Method 8270D. The samples were prepared on 02/06/2014 and analyzed on 02/07/2014.

No difficulties were encountered during the semivolatiles analysis.

All quality control parameters were within the acceptance limits.

DISSOLVED GASES

Samples CPA-MW-5D-0214 (680-98280-1) and BSA-MW-3D-0214 (680-98280-3) were analyzed for dissolved gases in accordance with RSK-175. The samples were analyzed on 02/13/2014.

Methane (TCD) exceeded the RPD limit for LCSD 680-315441/6. Refer to the QC report for details.

No other difficulties were encountered during the dissolved gases analysis.

All other quality control parameters were within the acceptance limits.

METALS (ICP)

Samples CPA-MW-5D-F(0.2)-0214 (680-98280-2) and BSA-MW-3D-F(0.2)-0214 (680-98280-4) were analyzed for Metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 02/04/2014 and analyzed on 02/05/2014.

FEB 28 2014

TestAmerica Savannah



Case Narrative

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98280-1
SDG: KPS106

Job ID: 680-98280-1 (Continued)

Laboratory: TestAmerica Savannah (Continued)

No difficulties were encountered during the metals analysis.

All quality control parameters were within the acceptance limits.

METALS (ICP)

Samples CPA-MW-5D-0214 (680-98280-1) and BSA-MW-3D-0214 (680-98280-3) were analyzed for Metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 02/04/2014 and analyzed on 02/05/2014.

No difficulties were encountered during the metals analysis.

All quality control parameters were within the acceptance limits.

ALKALINITY

Samples CPA-MW-5D-0214 (680-98280-1) and BSA-MW-3D-0214 (680-98280-3) were analyzed for alkalinity in accordance with EPA Method 310.1. The samples were analyzed on 02/07/2014.

No difficulties were encountered during the alkalinity analysis.

All quality control parameters were within the acceptance limits.

CHLORIDE

Samples CPA-MW-5D-0214 (680-98280-1) and BSA-MW-3D-0214 (680-98280-3) were analyzed for Chloride in accordance with EPA Method 325.2. The samples were analyzed on 02/06/2014.

Samples CPA-MW-5D-0214 (680-98280-1)[10X] and BSA-MW-3D-0214 (680-98280-3)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No difficulties were encountered during the chloride analysis.

All quality control parameters were within the acceptance limits.

NITRATE-NITRITE AS NITROGEN

Samples CPA-MW-5D-0214 (680-98280-1) and BSA-MW-3D-0214 (680-98280-3) were analyzed for nitrate-nitrite as nitrogen in accordance with EPA Method 353.2. The samples were analyzed on 02/04/2014.

No difficulties were encountered during the nitrate-nitrite analysis.

All quality control parameters were within the acceptance limits.

SULFATE

Samples CPA-MW-5D-0214 (680-98280-1) and BSA-MW-3D-0214 (680-98280-3) were analyzed for sulfate in accordance with EPA Method 375.4. The samples were analyzed on 02/06/2014.

Samples CPA-MW-5D-0214 (680-98280-1)[5X] and BSA-MW-3D-0214 (680-98280-3)[2X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No difficulties were encountered during the sulfate analysis.

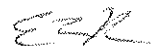
All quality control parameters were within the acceptance limits.

TOTAL ORGANIC CARBON

Samples CPA-MW-5D-0214 (680-98280-1) and BSA-MW-3D-0214 (680-98280-3) were analyzed for total organic carbon in accordance with EPA Method 415.1. The samples were analyzed on 02/04/2014.

No difficulties were encountered during the TOC analysis.

FEB 28 2014



TestAmerica Savannah

Case Narrative

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98280-1
SDG: KPS106

Job ID: 680-98280-1 (Continued)

Laboratory: TestAmerica Savannah (Continued)

All quality control parameters were within the acceptance limits.

DISSOLVED ORGANIC CARBON (DOC)

Samples CPA-MW-5D-F(0.2)-0214 (680-98280-2) and BSA-MW-3D-F(0.2)-0214 (680-98280-4) were analyzed for Dissolved Organic Carbon (DOC) in accordance with EPA Method 415.1. The samples were analyzed on 02/04/2014.

No difficulties were encountered during the DOC analysis.

All quality control parameters were within the acceptance limits.

FEB 28 2014
[Signature]

Sample Summary

Client: Solutia Inc.

Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98280-1

SDG: KPS106

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-98280-1	CPA-MW-5D-0214 ✓	Water	02/03/14 12:30	02/04/14 09:51
680-98280-2	CPA-MW-5D-F(0.2)-0214 ✓	Water	02/03/14 12:30	02/04/14 09:51
680-98280-3	BSA-MW-3D-0214 ✓	Water	02/03/14 15:05	02/04/14 09:51
680-98280-4	BSA-MW-3D-F(0.2)-0214 ✓	Water	02/03/14 15:05	02/04/14 09:51
680-98280-5	1Q14 LTM Trip Blank #1 ✓	Water	02/03/14 00:00	02/04/14 09:51

TestAmerica Savannah

FEB 28 2014

Method Summary

Client: Solutia Inc.

Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98280-1

SDG: KPS106

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL SAV
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL SAV
RSK-175	Dissolved Gases (GC)	RSK	TAL SAV
6010C	Metals (ICP)	SW846	TAL SAV
310.1	Alkalinity	MCAWW	TAL SAV
325.2	Chloride	MCAWW	TAL SAV
353.2	Nitrogen, Nitrate-Nitrite	MCAWW	TAL SAV
375.4	Sulfate	MCAWW	TAL SAV
415.1	TOC	MCAWW	TAL SAV
415.1	DOC	MCAWW	TAL SAV

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

TestAmerica Savannah

Definitions/Glossary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98280-1
SDG: KPS106

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

GC/MS Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

GC VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
*	RPD of the LCS and LCSD exceeds the control limits

Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

General Chemistry

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
D	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Detection Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98280-1
SDG: KPS106

Client Sample ID: CPA-MW-5D-0214

Lab Sample ID: 680-98280-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chlorobenzene	1900		20		ug/L	20		8260B	Total/NA
2-Chlorophenol	26		9.7		ug/L	1		8270D	Total/NA
Ethane	3.9		1.1		ug/L	1		RSK-175	Total/NA
Methane (TCD)	1700 *		390		ug/L	1		RSK-175	Total/NA
Iron	19		0.050		mg/L	1		6010C	Total
Manganese	0.59		0.010		mg/L	1		6010C	Recoverable Total
Chloride	260		10		mg/L	10		325.2	Recoverable Total/NA
Sulfate	87		25		mg/L	5		375.4	Total/NA
Total Organic Carbon	5.2		1.0		mg/L	1		415.1	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Alkalinity	530		5.0		mg/L	1		310.1	Total/NA
Carbon Dioxide, Free	61		5.0		mg/L	1		310.1	Total/NA

Client Sample ID: CPA-MW-5D-F(0.2)-0214

Lab Sample ID: 680-98280-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron, Dissolved	19		0.050		mg/L	1		6010C	Dissolved
Manganese, Dissolved	0.60		0.010		mg/L	1		6010C	Dissolved
Dissolved Organic Carbon	4.9		1.0		mg/L	1		415.1	Dissolved

Client Sample ID: BSA-MW-3D-0214

Lab Sample ID: 680-98280-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	52		50		ug/L	50		8260B	Total/NA
Chlorobenzene	2700		50		ug/L	50		8260B	Total/NA
1,4-Dichlorobenzene	320		50		ug/L	50		8260B	Total/NA
2-Chlorophenol	23		10		ug/L	1		8270D	Total/NA
Ethane	2.6		1.1		ug/L	1		RSK-175	Total/NA
Methane (TCD)	1500 *		390		ug/L	1		RSK-175	Total/NA
Iron	11		0.050		mg/L	1		6010C	Total
Manganese	0.54		0.010		mg/L	1		6010C	Recoverable Total
Chloride	140		5.0		mg/L	5		325.2	Recoverable Total/NA
Sulfate	31		10		mg/L	2		375.4	Total/NA
Total Organic Carbon	4.1		1.0		mg/L	1		415.1	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Alkalinity	560		5.0		mg/L	1		310.1	Total/NA
Carbon Dioxide, Free	42		5.0		mg/L	1		310.1	Total/NA

Client Sample ID: BSA-MW-3D-F(0.2)-0214

Lab Sample ID: 680-98280-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron, Dissolved	11		0.050		mg/L	1		6010C	Dissolved
Manganese, Dissolved	0.53		0.010		mg/L	1		6010C	Dissolved
Dissolved Organic Carbon	3.7		1.0		mg/L	1		415.1	Dissolved

This Detection Summary does not include radiochemical test results.

TestAmerica Savannah

Detection Summary

Client: Solutia Inc.

Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98280-1

SDG: KPS106

Client Sample ID: 1Q14 LTM Trip Blank #1

Lab Sample ID: 680-98280-5

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Savannah

Client Sample Results

Client: Solutia Inc.
Project/Site: WGG Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98280-1
SDG: KPS106

Client Sample ID: CPA-MW-5D-0214

Lab Sample ID: 680-98280-1

Date Collected: 02/03/14 12:30

Matrix: Water

Date Received: 02/04/14 09:51

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	20	U	20		ug/L			02/05/14 19:00	20
Chlorobenzene	1900		20		ug/L			02/05/14 19:00	20
1,2-Dichlorobenzene	20	U	20		ug/L			02/05/14 19:00	20
1,3-Dichlorobenzene	20	U	20		ug/L			02/05/14 19:00	20
1,4-Dichlorobenzene	20	U	20		ug/L			02/05/14 19:00	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	106		70 - 130		02/05/14 19:00	20
Dibromofluoromethane	108		70 - 130		02/05/14 19:00	20
Toluene-d8 (Surr)	104		70 - 130		02/05/14 19:00	20

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloroaniline	19	U	19		ug/L		02/06/14 15:30	02/07/14 23:32	1
2-Chlorophenol	26		9.7		ug/L		02/06/14 15:30	02/07/14 23:32	1
1,2,4-Trichlorobenzene	9.7	U	9.7		ug/L		02/06/14 15:30	02/07/14 23:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	74		38 - 130	02/06/14 15:30	02/07/14 23:32	1
2-Fluorophenol	70		25 - 130	02/06/14 15:30	02/07/14 23:32	1
Nitrobenzene-d5	86		39 - 130	02/06/14 15:30	02/07/14 23:32	1
Phenol-d5	76		25 - 130	02/06/14 15:30	02/07/14 23:32	1
Terphenyl-d14	74		10 - 143	02/06/14 15:30	02/07/14 23:32	1
2,4,6-Tribromophenol	74		31 - 141	02/06/14 15:30	02/07/14 23:32	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	3.9		1.1		ug/L			02/13/14 15:17	1
Ethylene	1.0	U	1.0		ug/L			02/13/14 15:17	1
Methane (TCD)	1700	*	390		ug/L			02/13/14 15:17	1

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	19		0.050		mg/L		02/04/14 14:48	02/05/14 15:24	1
Manganese	0.59		0.010		mg/L		02/04/14 14:48	02/05/14 15:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	260		10		mg/L			02/06/14 11:50	10
Nitrate as N	0.050	U	0.050		mg/L			02/04/14 16:05	1
Sulfate	87		25		mg/L			02/06/14 14:27	5
Total Organic Carbon	5.2		1.0		mg/L			02/04/14 20:38	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	530		5.0		mg/L			02/07/14 15:16	1
Carbon Dioxide, Free	61		5.0		mg/L			02/07/14 15:16	1

TestAmerica Savannah

Client Sample Results

Client: Solutia Inc.

Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98280-1

SDG: KPS106

Client Sample ID: CPA-MW-5D-F(0.2)-0214

Lab Sample ID: 680-98280-2

Date Collected: 02/03/14 12:30

Matrix: Water

Date Received: 02/04/14 09:51

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	19		0.050		mg/L		02/04/14 14:48	02/05/14 15:29	1
Manganese, Dissolved	0.60		0.010		mg/L		02/04/14 14:48	02/05/14 15:29	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	4.9		1.0		mg/L			02/04/14 22:14	1

TestAmerica Savannah

FEB 28 2014 *SK*

Client Sample Results

Client: Solutia Inc.
Project/Site: WGG Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98280-1
SDG: KPS106

Client Sample ID: BSA-MW-3D-0214

Lab Sample ID: 680-98280-3

Date Collected: 02/03/14 15:05

Matrix: Water

Date Received: 02/04/14 09:51

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	52		50		ug/L			02/05/14 19:30	50
Chlorobenzene	2700		50		ug/L			02/05/14 19:30	50
1,2-Dichlorobenzene	50	U	50		ug/L			02/05/14 19:30	50
1,3-Dichlorobenzene	50	U	50		ug/L			02/05/14 19:30	50
1,4-Dichlorobenzene	320		50		ug/L			02/05/14 19:30	50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	106		70 - 130		02/05/14 19:30	50
Dibromofluoromethane	112		70 - 130		02/05/14 19:30	50
Toluene-d8 (Surr)	101		70 - 130		02/05/14 19:30	50

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorophenol	23		10		ug/L		02/06/14 15:30	02/07/14 23:57	1
1,4-Dioxane	10	U	10		ug/L		02/06/14 15:30	02/07/14 23:57	1
1,2,4-Trichlorobenzene	10	U	10		ug/L		02/06/14 15:30	02/07/14 23:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	66		38 - 130	02/06/14 15:30	02/07/14 23:57	1
2-Fluorophenol	60		25 - 130	02/06/14 15:30	02/07/14 23:57	1
Nitrobenzene-d5	75		39 - 130	02/06/14 15:30	02/07/14 23:57	1
Phenol-d5	63		25 - 130	02/06/14 15:30	02/07/14 23:57	1
Terphenyl-d14	43		10 - 143	02/06/14 15:30	02/07/14 23:57	1
2,4,6-Tribromophenol	64		31 - 141	02/06/14 15:30	02/07/14 23:57	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	2.6		1.1		ug/L			02/13/14 15:29	1
Ethylene	1.0	U	1.0		ug/L			02/13/14 15:29	1
Methane (TCD)	1500	*	390		ug/L			02/13/14 15:29	1

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	11		0.050		mg/L		02/04/14 14:48	02/05/14 15:34	1
Manganese	0.54		0.010		mg/L		02/04/14 14:48	02/05/14 15:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	140		5.0		mg/L			02/06/14 11:42	5
Nitrate as N	0.050	U	0.050		mg/L			02/04/14 16:00	1
Sulfate	31		10		mg/L			02/06/14 14:16	2
Total Organic Carbon	4.1		1.0		mg/L			02/04/14 20:54	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	560		5.0		mg/L			02/07/14 15:26	1
Carbon Dioxide, Free	42		5.0		mg/L			02/07/14 15:26	1

TestAmerica Savannah

Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98280-1
SDG: KPS106

Client Sample ID: BSA-MW-3D-F(0.2)-0214

Lab Sample ID: 680-98280-4

Date Collected: 02/03/14 15:05

Matrix: Water

Date Received: 02/04/14 09:51

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	11		0.050		mg/L		02/04/14 14:48	02/05/14 15:38	1
Manganese, Dissolved	0.53		0.010		mg/L		02/04/14 14:48	02/05/14 15:38	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	3.7		1.0		mg/L			02/04/14 22:57	1

TestAmerica Savannah

Client Sample Results

Client: Solutia Inc.
Project/Site: W GK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98280-1
SDG: KPS106

Client Sample ID: 1Q14 LTM Trip Blank #1

Lab Sample ID: 680-98280-5

Date Collected: 02/03/14 00:00

Matrix: Water

Date Received: 02/04/14 09:51

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			02/05/14 13:03	1
Chlorobenzene	1.0	U	1.0		ug/L			02/05/14 13:03	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			02/05/14 13:03	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			02/05/14 13:03	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			02/05/14 13:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	101		70 - 130		02/05/14 13:03	1
Dibromofluoromethane	113		70 - 130		02/05/14 13:03	1
Toluene-d8 (Surr)	101		70 - 130		02/05/14 13:03	1

TestAmerica Savannah

Surrogate Summary

Client: Solutia Inc.

Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98280-1

SDG: KPS106

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (70-130)	DBFM (70-130)	TOL (70-130)
680-98280-1	CPA-MW-5D-0214	106	108	104
680-98280-3	BSA-MW-3D-0214	106	112	101
680-98280-5	1Q14 LTM Trip Blank #1	101	113	101
LCS 680-314242/4	Lab Control Sample	107	109	105
LCSD 680-314242/5	Lab Control Sample Dup	106	107	106
MB 680-314242/8	Method Blank	101	115	101

Surrogate Legend

BFB = 4-Bromofluorobenzene

DBFM = Dibromofluoromethane

TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (38-130)	2FP (25-130)	NBZ (39-130)	PHL (25-130)	TPH (10-143)	TBP (31-141)
680-98280-1	CPA-MW-5D-0214	74	70	86	76	74	74
680-98280-3	BSA-MW-3D-0214	66	60	75	63	43	64
LCS 680-314294/7-A	Lab Control Sample	76	68	78	73	80	80
MB 680-314294/6-A	Method Blank	69	61	81	53	74	76

Surrogate Legend

FBP = 2-Fluorobiphenyl

2FP = 2-Fluorophenol

NBZ = Nitrobenzene-d5

PHL = Phenol-d5

TPH = Terphenyl-d14

TBP = 2,4,6-Tribromophenol

TestAmerica Savannah

QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98280-1
SDG: KPS106

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 680-314242/8							Client Sample ID: Method Blank		
Matrix: Water							Prep Type: Total/NA		
Analysis Batch: 314242									
Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			02/05/14 12:33	1
Chlorobenzene	1.0	U	1.0		ug/L			02/05/14 12:33	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			02/05/14 12:33	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			02/05/14 12:33	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			02/05/14 12:33	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	101		70 - 130					02/05/14 12:33	1
Dibromofluoromethane	115		70 - 130					02/05/14 12:33	1
Toluene-d8 (Surr)	101		70 - 130					02/05/14 12:33	1

Lab Sample ID: LCS 680-314242/4							Client Sample ID: Lab Control Sample		
Matrix: Water							Prep Type: Total/NA		
Analysis Batch: 314242									
Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Benzene	50.0	51.5		ug/L		103	74 - 123		
Chlorobenzene	50.0	53.1		ug/L		106	79 - 120		
1,2-Dichlorobenzene	50.0	55.2		ug/L		110	77 - 124		
1,3-Dichlorobenzene	50.0	55.0		ug/L		110	79 - 123		
1,4-Dichlorobenzene	50.0	54.0		ug/L		108	76 - 124		
Surrogate	LCS %Recovery	LCS Qualifier	Limits						
4-Bromofluorobenzene	107		70 - 130						
Dibromofluoromethane	109		70 - 130						
Toluene-d8 (Surr)	105		70 - 130						

Lab Sample ID: LCSD 680-314242/5							Client Sample ID: Lab Control Sample Dup		
Matrix: Water							Prep Type: Total/NA		
Analysis Batch: 314242									
Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	50.0	51.6		ug/L		103	74 - 123	0	30
Chlorobenzene	50.0	52.2		ug/L		104	79 - 120	2	30
1,2-Dichlorobenzene	50.0	54.7		ug/L		109	77 - 124	1	30
1,3-Dichlorobenzene	50.0	54.5		ug/L		109	79 - 123	1	30
1,4-Dichlorobenzene	50.0	53.2		ug/L		106	76 - 124	1	30
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene	106		70 - 130						
Dibromofluoromethane	107		70 - 130						
Toluene-d8 (Surr)	106		70 - 130						

TestAmerica Savannah

QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98280-1
SDG: KPS106

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 680-314294/6-A
Matrix: Water
Analysis Batch: 314885

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 314294

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
4-Chloroaniline	20	U	20		ug/L		02/06/14 15:30	02/10/14 15:07	1
2-Chlorophenol	10	U	10		ug/L		02/06/14 15:30	02/10/14 15:07	1
1,4-Dioxane	10	U	10		ug/L		02/06/14 15:30	02/10/14 15:07	1
1,2,4-Trichlorobenzene	10	U	10		ug/L		02/06/14 15:30	02/10/14 15:07	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
2-Fluorobiphenyl	69		38 - 130	02/06/14 15:30	02/10/14 15:07	1
2-Fluorophenol	61		25 - 130	02/06/14 15:30	02/10/14 15:07	1
Nitrobenzene-d5	81		39 - 130	02/06/14 15:30	02/10/14 15:07	1
Phenol-d5	53		25 - 130	02/06/14 15:30	02/10/14 15:07	1
Terphenyl-d14	74		10 - 143	02/06/14 15:30	02/10/14 15:07	1
2,4,6-Tribromophenol	76		31 - 141	02/06/14 15:30	02/10/14 15:07	1

Lab Sample ID: LCS 680-314294/7-A
Matrix: Water
Analysis Batch: 314717

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 314294

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	Limits
		Result	Qualifier				
4-Chloroaniline	100	55.8		ug/L		56	42 - 130
2-Chlorophenol	100	72.8		ug/L		73	57 - 130
1,4-Dioxane	100	59.0		ug/L		59	35 - 130
1,2,4-Trichlorobenzene	100	56.3		ug/L		56	42 - 130

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	76		38 - 130
2-Fluorophenol	68		25 - 130
Nitrobenzene-d5	78		39 - 130
Phenol-d5	73		25 - 130
Terphenyl-d14	80		10 - 143
2,4,6-Tribromophenol	80		31 - 141

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 680-315441/7
Matrix: Water
Analysis Batch: 315441

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Ethane	1.1	U	1.1		ug/L			02/13/14 12:45	1
Ethylene	1.0	U	1.0		ug/L			02/13/14 12:45	1
Methane	0.58	U	0.58		ug/L			02/13/14 12:45	1
Methane (TCD)	390	U	390		ug/L			02/13/14 12:45	1

TestAmerica Savannah

QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98280-1
SDG: KPS106

Method: RSK-175 - Dissolved Gases (GC) (Continued)

Lab Sample ID: LCS 680-315441/3
Matrix: Water
Analysis Batch: 315441

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS		Unit	D	%Rec	%Rec.	
		Result	Qualifier				Limits	
Ethane	288	313		ug/L		108	75 - 125	
Ethylene	269	302		ug/L		112	75 - 125	
Methane	154	157		ug/L		102	75 - 125	

Lab Sample ID: LCS 680-315441/5
Matrix: Water
Analysis Batch: 315441

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS		Unit	D	%Rec	%Rec.	
		Result	Qualifier				Limits	
Methane (TCD)	1920	1480		ug/L		77	75 - 125	

Lab Sample ID: LCSD 680-315441/4
Matrix: Water
Analysis Batch: 315441

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD		Unit	D	%Rec	%Rec.		RPD	
		Result	Qualifier				Limits		RPD	Limit
Ethane	288	301		ug/L		104	75 - 125		4	30
Ethylene	269	288		ug/L		107	75 - 125		5	30
Methane	154	153		ug/L		99	75 - 125		3	30

Lab Sample ID: LCSD 680-315441/6
Matrix: Water
Analysis Batch: 315441

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD		Unit	D	%Rec	%Rec.		RPD	
		Result	Qualifier				Limits		RPD	Limit
Methane (TCD)	1920	2040	*	ug/L		106	75 - 125		32	30

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 680-314191/1-A
Matrix: Water
Analysis Batch: 314463

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 314191

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Iron	0.050	U	0.050		mg/L		02/04/14 14:48	02/05/14 16:49	1
Iron, Dissolved	0.050	U	0.050		mg/L		02/04/14 14:48	02/05/14 16:49	1
Manganese	0.010	U	0.010		mg/L		02/04/14 14:48	02/05/14 16:49	1
Manganese, Dissolved	0.010	U	0.010		mg/L		02/04/14 14:48	02/05/14 16:49	1

Lab Sample ID: LCS 680-314191/2-A
Matrix: Water
Analysis Batch: 314463

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 314191

Analyte	Spike Added	LCS		Unit	D	%Rec	%Rec.	
		Result	Qualifier				Limits	
Iron	5.00	5.12		mg/L		102	75 - 125	
Iron, Dissolved	5.00	5.12		mg/L		102	75 - 125	
Manganese	0.500	0.528		mg/L		106	75 - 125	
Manganese, Dissolved	0.500	0.528		mg/L		106	75 - 125	

TestAmerica Savannah

QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98280-1
SDG: KPS106

Method: 310.1 - Alkalinity

Lab Sample ID: MB 680-314795/5							Client Sample ID: Method Blank		
Matrix: Water							Prep Type: Total/NA		
Analysis Batch: 314795									
Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	5.0	U	5.0		mg/L			02/07/14 14:38	1
Carbon Dioxide, Free	5.0	U	5.0		mg/L			02/07/14 14:38	1

Lab Sample ID: LCS 680-314795/6							Client Sample ID: Lab Control Sample		
Matrix: Water							Prep Type: Total/NA		
Analysis Batch: 314795									
Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Alkalinity	250	231		mg/L		92	80 - 120		

Lab Sample ID: LCSD 680-314795/22							Client Sample ID: Lab Control Sample Dup		
Matrix: Water							Prep Type: Total/NA		
Analysis Batch: 314795									
Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity	250	223		mg/L		89	80 - 120	3	30

Method: 325.2 - Chloride

Lab Sample ID: MB 680-314548/16							Client Sample ID: Method Blank		
Matrix: Water							Prep Type: Total/NA		
Analysis Batch: 314548									
Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.0	U	1.0		mg/L			02/06/14 11:57	1

Lab Sample ID: LCS 680-314548/1							Client Sample ID: Lab Control Sample		
Matrix: Water							Prep Type: Total/NA		
Analysis Batch: 314548									
Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	25.0	26.0		mg/L		104	85 - 115		

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 680-314208/13							Client Sample ID: Method Blank		
Matrix: Water							Prep Type: Total/NA		
Analysis Batch: 314208									
Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0.050	U	0.050		mg/L			02/04/14 15:54	1

Lab Sample ID: LCS 680-314208/14							Client Sample ID: Lab Control Sample		
Matrix: Water							Prep Type: Total/NA		
Analysis Batch: 314208									
Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrate as N	0.500	0.541		mg/L		108	90 - 110		
Nitrate Nitrite as N	1.00	1.02		mg/L		102	90 - 110		

TestAmerica Savannah

QC Sample Results

Client: Solutia Inc.

Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98280-1

SDG: KPS106

Method: 353.2 - Nitrogen, Nitrate-Nitrite (Continued)

Lab Sample ID: LCS 680-314208/14

Matrix: Water

Analysis Batch: 314208

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite as N	0.500	0.480		mg/L		96	90 - 110

Method: 375.4 - Sulfate

Lab Sample ID: MB 680-314563/5

Matrix: Water

Analysis Batch: 314563

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	5.0	U	5.0		mg/L			02/06/14 14:09	1

Lab Sample ID: LCS 680-314563/17

Matrix: Water

Analysis Batch: 314563

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	20.1		mg/L		100	75 - 125

Method: 415.1 - DOC

Lab Sample ID: MB 680-314352/25

Matrix: Water

Analysis Batch: 314352

Client Sample ID: Method Blank

Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.0	U	1.0		mg/L			02/04/14 21:59	1

Lab Sample ID: LCS 680-314352/24

Matrix: Water

Analysis Batch: 314352

Client Sample ID: Lab Control Sample

Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	20.0	21.3		mg/L		106	80 - 120

Lab Sample ID: 680-98280-2 MS

Matrix: Water

Analysis Batch: 314352

Client Sample ID: CPA-MW-5D-F(0.2)-0214

Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	4.9		20.0	26.2		mg/L		107	80 - 120

Lab Sample ID: 680-98280-2 MSD

Matrix: Water

Analysis Batch: 314352

Client Sample ID: CPA-MW-5D-F(0.2)-0214

Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	4.9		20.0	25.9		mg/L		105	80 - 120	1	20

TestAmerica Savannah

QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98280-1
SDG: KPS106

Method: 415.1 - TOC

Lab Sample ID: MB 680-314351/2
Matrix: Water
Analysis Batch: 314351

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1.0	U	1.0		mg/L			02/04/14 15:49	1

Lab Sample ID: LCS 680-314351/5
Matrix: Water
Analysis Batch: 314351

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	20.0	21.3		mg/L		106	80 - 120

TestAmerica Savannah

QC Association Summary

Client: Solutia Inc.
Project/Site: W GK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98280-1
SDG: KPS106

GC/MS VOA

Analysis Batch: 314242

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98280-1	CPA-MW-5D-0214	Total/NA	Water	8260B	
680-98280-3	BSA-MW-3D-0214	Total/NA	Water	8260B	
680-98280-5	1Q14 LTM Trip Blank #1	Total/NA	Water	8260B	
LCS 680-314242/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-314242/5	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-314242/8	Method Blank	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 314294

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98280-1	CPA-MW-5D-0214	Total/NA	Water	3520C	
680-98280-3	BSA-MW-3D-0214	Total/NA	Water	3520C	
LCS 680-314294/7-A	Lab Control Sample	Total/NA	Water	3520C	
MB 680-314294/6-A	Method Blank	Total/NA	Water	3520C	

Analysis Batch: 314717

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98280-1	CPA-MW-5D-0214	Total/NA	Water	8270D	314294
680-98280-3	BSA-MW-3D-0214	Total/NA	Water	8270D	314294
LCS 680-314294/7-A	Lab Control Sample	Total/NA	Water	8270D	314294

Analysis Batch: 314885

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 680-314294/6-A	Method Blank	Total/NA	Water	8270D	314294

GC VOA

Analysis Batch: 315441

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98280-1	CPA-MW-5D-0214	Total/NA	Water	RSK-175	
680-98280-3	BSA-MW-3D-0214	Total/NA	Water	RSK-175	
LCS 680-315441/3	Lab Control Sample	Total/NA	Water	RSK-175	
LCS 680-315441/5	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 680-315441/4	Lab Control Sample Dup	Total/NA	Water	RSK-175	
LCSD 680-315441/6	Lab Control Sample Dup	Total/NA	Water	RSK-175	
MB 680-315441/7	Method Blank	Total/NA	Water	RSK-175	

Metals

Prep Batch: 314191

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98280-1	CPA-MW-5D-0214	Total Recoverable	Water	3005A	
680-98280-2	CPA-MW-5D-F(0.2)-0214	Dissolved	Water	3005A	
680-98280-3	BSA-MW-3D-0214	Total Recoverable	Water	3005A	
680-98280-4	BSA-MW-3D-F(0.2)-0214	Dissolved	Water	3005A	
LCS 680-314191/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 680-314191/1-A	Method Blank	Total Recoverable	Water	3005A	

TestAmerica Savannah

QC Association Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98280-1
SDG: KPS106

Metals (Continued)

Analysis Batch: 314463

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98280-1	CPA-MW-5D-0214	Total Recoverable	Water	6010C	314191
680-98280-2	CPA-MW-5D-F(0.2)-0214	Dissolved	Water	6010C	314191
680-98280-3	BSA-MW-3D-0214	Total Recoverable	Water	6010C	314191
680-98280-4	BSA-MW-3D-F(0.2)-0214	Dissolved	Water	6010C	314191
LCS 680-314191/2-A	Lab Control Sample	Total Recoverable	Water	6010C	314191
MB 680-314191/1-A	Method Blank	Total Recoverable	Water	6010C	314191

General Chemistry

Analysis Batch: 314208

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98280-1	CPA-MW-5D-0214	Total/NA	Water	353.2	
680-98280-3	BSA-MW-3D-0214	Total/NA	Water	353.2	
LCS 680-314208/14	Lab Control Sample	Total/NA	Water	353.2	
MB 680-314208/13	Method Blank	Total/NA	Water	353.2	

Analysis Batch: 314351

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98280-1	CPA-MW-5D-0214	Total/NA	Water	415.1	
680-98280-3	BSA-MW-3D-0214	Total/NA	Water	415.1	
LCS 680-314351/5	Lab Control Sample	Total/NA	Water	415.1	
MB 680-314351/2	Method Blank	Total/NA	Water	415.1	

Analysis Batch: 314352

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98280-2	CPA-MW-5D-F(0.2)-0214	Dissolved	Water	415.1	
680-98280-2 MS	CPA-MW-5D-F(0.2)-0214	Dissolved	Water	415.1	
680-98280-2 MSD	CPA-MW-5D-F(0.2)-0214	Dissolved	Water	415.1	
680-98280-4	BSA-MW-3D-F(0.2)-0214	Dissolved	Water	415.1	
LCS 680-314352/24	Lab Control Sample	Dissolved	Water	415.1	
MB 680-314352/25	Method Blank	Dissolved	Water	415.1	

Analysis Batch: 314548

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98280-1	CPA-MW-5D-0214	Total/NA	Water	325.2	
680-98280-3	BSA-MW-3D-0214	Total/NA	Water	325.2	
LCS 680-314548/1	Lab Control Sample	Total/NA	Water	325.2	
MB 680-314548/16	Method Blank	Total/NA	Water	325.2	

Analysis Batch: 314563

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98280-1	CPA-MW-5D-0214	Total/NA	Water	375.4	
680-98280-3	BSA-MW-3D-0214	Total/NA	Water	375.4	
LCS 680-314563/17	Lab Control Sample	Total/NA	Water	375.4	
MB 680-314563/5	Method Blank	Total/NA	Water	375.4	

Analysis Batch: 314795

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98280-1	CPA-MW-5D-0214	Total/NA	Water	310.1	
680-98280-3	BSA-MW-3D-0214	Total/NA	Water	310.1	

TestAmerica Savannah

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QC Association Summary

Client: Solutia Inc.

Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98280-1

SDG: KPS106

General Chemistry (Continued)

Analysis Batch: 314795 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 680-314795/6	Lab Control Sample	Total/NA	Water	310.1	
LCSD 680-314795/22	Lab Control Sample Dup	Total/NA	Water	310.1	
MB 680-314795/5	Method Blank	Total/NA	Water	310.1	

TestAmerica Savannah

Lab Chronicle

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98280-1
SDG: KPS106

Client Sample ID: CPA-MW-5D-0214

Lab Sample ID: 680-98280-1

Date Collected: 02/03/14 12:30

Matrix: Water

Date Received: 02/04/14 09:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		20	314242	02/05/14 19:00	TF1	TAL SAV
Total/NA	Prep	3520C			314294	02/06/14 15:30	RBS	TAL SAV
Total/NA	Analysis	8270D		1	314717	02/07/14 23:32	NED	TAL SAV
Total/NA	Analysis	RSK-175		1	315441	02/13/14 15:17	TAR	TAL SAV
Total Recoverable	Prep	3005A			314191	02/04/14 14:48	BJB	TAL SAV
Total Recoverable	Analysis	6010C		1	314463	02/05/14 15:24	BCB	TAL SAV
Total/NA	Analysis	353.2		1	314208	02/04/14 16:05	GRX	TAL SAV
Total/NA	Analysis	415.1		1	314351	02/04/14 20:38	JER	TAL SAV
Total/NA	Analysis	325.2		10	314548	02/06/14 11:50	JME	TAL SAV
Total/NA	Analysis	375.4		5	314563	02/06/14 14:27	JME	TAL SAV
Total/NA	Analysis	310.1		1	314795	02/07/14 15:16	LBH	TAL SAV

Client Sample ID: CPA-MW-5D-F(0.2)-0214

Lab Sample ID: 680-98280-2

Date Collected: 02/03/14 12:30

Matrix: Water

Date Received: 02/04/14 09:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			314191	02/04/14 14:48	BJB	TAL SAV
Dissolved	Analysis	6010C		1	314463	02/05/14 15:29	BCB	TAL SAV
Dissolved	Analysis	415.1		1	314352	02/04/14 22:14	JER	TAL SAV

Client Sample ID: BSA-MW-3D-0214

Lab Sample ID: 680-98280-3

Date Collected: 02/03/14 15:05

Matrix: Water

Date Received: 02/04/14 09:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		50	314242	02/05/14 19:30	TF1	TAL SAV
Total/NA	Prep	3520C			314294	02/06/14 15:30	RBS	TAL SAV
Total/NA	Analysis	8270D		1	314717	02/07/14 23:57	NED	TAL SAV
Total/NA	Analysis	RSK-175		1	315441	02/13/14 15:29	TAR	TAL SAV
Total Recoverable	Prep	3005A			314191	02/04/14 14:48	BJB	TAL SAV
Total Recoverable	Analysis	6010C		1	314463	02/05/14 15:34	BCB	TAL SAV
Total/NA	Analysis	353.2		1	314208	02/04/14 16:00	GRX	TAL SAV
Total/NA	Analysis	415.1		1	314351	02/04/14 20:54	JER	TAL SAV
Total/NA	Analysis	325.2		5	314548	02/06/14 11:42	JME	TAL SAV
Total/NA	Analysis	375.4		2	314563	02/06/14 14:16	JME	TAL SAV
Total/NA	Analysis	310.1		1	314795	02/07/14 15:26	LBH	TAL SAV

TestAmerica Savannah

Lab Chronicle

Client: Solutia Inc.

Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98280-1

SDG: KPS106

Client Sample ID: BSA-MW-3D-F(0.2)-0214

Lab Sample ID: 680-98280-4

Date Collected: 02/03/14 15:05

Matrix: Water

Date Received: 02/04/14 09:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			314191	02/04/14 14:48	BJB	TAL SAV
Dissolved	Analysis	6010C		1	314463	02/05/14 15:38	BCB	TAL SAV
Dissolved	Analysis	415.1		1	314352	02/04/14 22:57	JER	TAL SAV

Client Sample ID: 1Q14 LTM Trip Blank #1

Lab Sample ID: 680-98280-5

Date Collected: 02/03/14 00:00

Matrix: Water

Date Received: 02/04/14 09:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	314242	02/05/14 13:03	TF1	TAL SAV

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

12

TestAmerica Savannah

FEB 28 2014 *gzh*

Savannah
5102 LaRoche Avenue

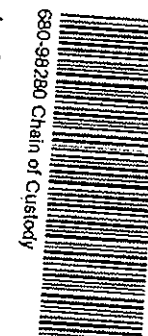
Savannah, GA 31404
phone 912.354.7858 fax 912.352.0165

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact		Project Manager: Bob Billman		Site Contact: Michael Corbett		COC No:	
URS Corporation		Tel/Fax: (314) 743-4108		Lab Contact: Michele Kersey		Carrier: Fed Ex	
1001 Highlands Plaza Drive West, Suite 300		Analysis Turnaround Time				1 of 1 COCs	
St. Louis, MO 63110		Calendar (C) or Work Days (W) C					
(314) 429-0100 Phone		TAT if different from Below Standard					
(314) 429-0462 FAX		<input type="checkbox"/> 2 weeks					
Project Name: 1Q14 LTM GW Sampling		<input type="checkbox"/> 1 week					
Site: Solutia WG Krummrich Facility		<input type="checkbox"/> 2 days					
P.O.#		<input type="checkbox"/> 1 day					
Sample Identification		Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Sample Specific Notes:
CPA-MW-5D -0214	2/3/14	1230	G	Water	16		
CPA-MW-5D - F(0.2)-0214		1230	G	Water	2	X	
CPA-MW-5D-0214-MS		1230	G	Water	3	3	
CPA-MW-5D-0214-MSD		1230	G	Water	3	3	
BSA-MW-3D-0214		1505	G	Water	16		
BSA-MW-3D-F(0.2)-0214	✓	1505	G	Water	2	X	
1Q14 LTM Trip Blank # 1	2/3/14			Water	2		
Preservation Used: 1= Ice, 2= HCl, 3= H2SO4, 4= HNO3, 5= NaOH, 6= Other							2 1 4 1 1 2 3 1 3 4 2
Possible Hazard Identification							Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Ion B <input type="checkbox"/> Other							<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Give For _____ Months
Special Instructions/QC Requirements & Comments:							
* 2/4/14 MS/MSD Canceled per N. Mennunier J. Reginald							2.4°C 680-98280
Relinquished by: M. K.	Company: URS	Date/Time: 2/3/14 1630	Received by:	Company:	Date/Time:		
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:		
Relinquished by:	Company:	Date/Time:	Received by: PA	Company: PA	Date/Time: 02/04/14 0951		



FEB 28 2014 **SK**

Login Sample Receipt Checklist

Client: Solutia Inc.

Job Number: 680-98280-1

SDG Number: KPS106

Login Number: 98280

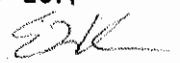
List Source: TestAmerica Savannah

List Number: 1

Creator: Conner, Keaton

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

FEB 28 2014



Certification Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98280-1
SDG: KPS106

Laboratory: TestAmerica Savannah

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
	AFCEE		SAVLAB	
A2LA	DoD ELAP		399.01	02-28-15
A2LA	ISO/IEC 17025		399.01	02-28-15
Alabama	State Program	4	41450	06-30-14
Arkansas DEQ	State Program	6	88-0692	01-31-15
California	NELAP	9	3217CA	07-31-14
Colorado	State Program	8	N/A	12-31-14
Connecticut	State Program	1	PH-0161	03-31-15
Florida	NELAP	4	E87052	06-30-14
GA Dept. of Agriculture	State Program	4	N/A	06-30-14
Georgia	State Program	4	N/A	06-30-14
Georgia	State Program	4	803	06-30-14
Guam	State Program	9	09-005r	04-17-14
Hawaii	State Program	9	N/A	06-30-14
Illinois	NELAP	5	200022	11-30-14
Indiana	State Program	5	N/A	06-30-14
Iowa	State Program	7	353	07-01-15
Kentucky (DW)	State Program	4	90084	12-31-14
Kentucky (UST)	State Program	4	18	06-30-14
Louisiana	NELAP	6	LA100015	12-31-14
Maine	State Program	1	GA00006	08-16-14
Maryland	State Program	3	250	12-31-14
Massachusetts	State Program	1	M-GA006	06-30-14
Michigan	State Program	5	9925	06-30-14
Mississippi	State Program	4	N/A	06-30-14
Montana	State Program	8	CERT0081	01-01-15
Nebraska	State Program	7	TestAmerica-Savannah	06-30-14
New Jersey	NELAP	2	GA769	06-30-14
New Mexico	State Program	6	N/A	06-30-14
New York	NELAP	2	10842	03-31-14
North Carolina DENR	State Program	4	269	12-31-14
North Carolina DHHS	State Program	4	13701	07-31-14
Oklahoma	State Program	6	9984	08-31-14
Pennsylvania	NELAP	3	68-00474	06-30-14
Puerto Rico	State Program	2	GA00006	01-01-14 *
South Carolina	State Program	4	98001	06-30-14
Tennessee	State Program	4	TN02961	06-30-14
Texas	NELAP	6	T104704185-08-TX	11-30-14
USDA	Federal		SAV 3-04	04-07-14
Virginia	NELAP	3	460161	06-14-14
Washington	State Program	10	C1794	06-10-14
West Virginia DEP	State Program	3	94	06-30-14
West Virginia DHHR	State Program	3	9950C	12-31-13 *
Wisconsin	State Program	5	999819810	08-31-14
Wyoming	State Program	8	8TMS-L	06-30-14

* Expired certification is currently pending renewal and is considered valid.

TestAmerica Savannah

FEB 28 2014 

Solutia Krummrich Data Review WGK LTM 1Q14

Laboratory SDG: KPS107

Data Reviewer: Melissa Mansker

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 3/5/2014

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2008. USEPA National Functional Guidelines for Superfund Inorganic Data Review 2010

Work Plan: Revised Long-Term Monitoring Program (LTMP) Work Plan (Solutia 2009)

Sample Identification	
BSA-MW-2D-0214	BSA-MW-2D-F(0.2)-0214
CPA-MW-3D-0214	CPA-MW-3D-F(0.2)-0214
CPA-MW-3D-0214-AD	1Q14 LTM Trip Blank #2

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated that methane LCS/LCSD RPD was outside evaluation criteria. Nitrate, benzene, and 4-chloroaniline MS/MSD recoveries were outside evaluation criteria for sample BSA-MW-2D-0214. Samples were diluted due to high levels of target analytes. These issues are addressed further in the appropriate sections below.

The cooler receipt form indicated that one of one coolers was received by the laboratory at a temperature of 1.0°C which is outside the 4°C ± 2°C criteria. The samples were received in good condition; therefore no qualification of data was required. The cooler receipt form indicated that a pH > 2 for dissolved organic carbon in sample CPA-MW-3D-F(0.2)-0214; please see section 11.0 of this review for qualifications.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

No

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD/ RPD Criteria
LCS/LCSD 680- 315441/5/6	Dissolved gases	Methane	77/106	32	75-125/30

LCS/LCSD recoveries were within evaluation criteria; samples are not qualified based on LCS/LCSD RPD alone; therefore, associated samples did not require qualification.

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples collected as part of this SDG?

Yes, sample BSA-MW-2D-0214 was spiked and analyzed for VOCs, SVOCs, metals, and nitrate. Although not requested, sample CPA-MW-3D-0214 was spiked and analyzed for sulfate, and sample BSA-MW-2D-F(0.2)-0214 was spiked and analyzed for dissolved organic carbon.

Were MS/MSD recoveries within evaluation criteria?

No

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery	RPD	MS/MSD/ RPD Criteria
BSA-MW-2D-0214	VOCs	Benzene	24/34	6	74-123/30
BSA-MW-2D-0214	SVOCs	4-Chloroaniline	26/19	13	42-130/50
BSA-MW-2D-0214	General chemistry	Nitrate	110/111	0	90-110/10

Analytical results reported as non-detect and associated with MS/MSD recoveries above evaluation criteria, indicating a high bias, did not require qualification. USEPA National Functional Guidelines for Organic Data Review indicates that organic data does not require qualification based on MS/MSD data alone. LCS/LCSD recoveries were within evaluation criteria. No qualification of data was required.

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

Yes, samples BSA-MW-2D-0214 and CPA-MW-3D-0214 were spiked and analyzed for

alkalinity and free carbon dioxide. Sample BSA-MW-2D-0214 was spiked and analyzed for total organic carbon.

Were laboratory duplicate sample RPDs within criteria?

Yes

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

Yes

Field ID	Field Duplicate ID
CPA-MW-3D-0214	CPA-MW-3D-0214-AD

Were field duplicates within evaluation criteria?

Yes

10.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

11.0 Additional Qualifications

Were additional qualifications applied?

Yes, the following sample was qualified, as summarized below, due to pH > 2.

Sample ID	Parameter	Analyte	Qualification
CPA-MW-3D-F(0.2)-0214	General chemistry	Dissolved organic carbon	J

SDG KPS107

Results of Samples from Monitoring Well:

BSA-MW-2D
CPA-MW-3D

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

TestAmerica Job ID: 680-98328-1
TestAmerica Sample Delivery Group: KPS107
Client Project/Site: WGK Long Term Monitoring - 1Q14

For:
Solutia Inc.
575 Maryville Centre Dr.
Saint Louis, Missouri 63141

Attn: Mr. Jerry Rinaldi

Michele R. Kersey

Authorized for release by:
2/19/2014 2:55:25 PM

Michele Kersey, Project Manager I
(912)354-7858
michele.kersey@testamericainc.com

LINKS

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results through
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www.testamericainc.com

Reviewed on
MAR 05 2014
MM

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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MAR 05 2014
[Signature]

Case Narrative

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98328-1
SDG: KPS107

Job ID: 680-98328-1

Laboratory: TestAmerica Savannah

Narrative

CASE NARRATIVE

Client: Solutia Inc.

Project: WGK Long Term Monitoring - 1Q14

Report Number: 680-98328-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT

The samples were received on 2/5/2014 9:46 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.0° C.

VOLATILE ORGANIC COMPOUNDS (GC-MS)

Samples BSA-MW-2D-0214 (680-98328-1), CPA-MW-3D-0214 (680-98328-3), CPA-MW-3D-0214-AD (680-98328-5) and 1Q14 LTM Trip Blank #2 (680-98328-6) were analyzed for Volatile Organic Compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 02/06/2014 and 02/07/2014.

The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 314439 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Refer to the QC report for details.

Samples BSA-MW-2D-0214 (680-98328-1)[2000X], CPA-MW-3D-0214 (680-98328-3)[100X] and CPA-MW-3D-0214-AD (680-98328-5) [100X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No other difficulties were encountered during the volatiles analysis.

All other quality control parameters were within the acceptance limits.

SEMIVOLATILE ORGANIC COMPOUNDS (AQUEOUS)

Samples BSA-MW-2D-0214 (680-98328-1), CPA-MW-3D-0214 (680-98328-3) and CPA-MW-3D-0214-AD (680-98328-5) were analyzed for Semivolatile Organic Compounds (Aqueous) in accordance with EPA SW-846 Method 8270D. The samples were prepared on 02/06/2014 and analyzed on 02/08/2014.

4-Chloroaniline exceeded the recovery criteria low for the MS and MSD of sample BSA-MW-2D-0214 (680-98328-1) in batch 680-314717.

Refer to the QC report for details.

No other difficulties were encountered during the semivolatiles analysis.

All other quality control parameters were within the acceptance limits.

DISSOLVED GASES

Samples BSA-MW-2D-0214 (680-98328-1) and CPA-MW-3D-0214 (680-98328-3) were analyzed for dissolved gases in accordance with RSK-175. The samples were analyzed on 02/13/2014.

MAR 05 2014



Case Narrative

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98328-1
SDG: KPS107

Job ID: 680-98328-1 (Continued)

Laboratory: TestAmerica Savannah (Continued)

Methane (TCD) exceeded the RPD limit for LCSD 680-315441/6. Refer to the QC report for details.

No other difficulties were encountered during the dissolved gases analysis.

All other quality control parameters were within the acceptance limits.

METALS (ICP)

Samples BSA-MW-2D-F(0.2)-0214 (680-98328-2) and CPA-MW-3D-F(0.2)-0214 (680-98328-4) were analyzed for Metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 02/06/2014 and analyzed on 02/07/2014.

No difficulties were encountered during the metals analysis.

All quality control parameters were within the acceptance limits.

METALS (ICP)

Samples BSA-MW-2D-0214 (680-98328-1) and CPA-MW-3D-0214 (680-98328-3) were analyzed for Metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 02/06/2014 and analyzed on 02/07/2014.

No difficulties were encountered during the metals analysis.

All quality control parameters were within the acceptance limits.

ALKALINITY

Samples BSA-MW-2D-0214 (680-98328-1) and CPA-MW-3D-0214 (680-98328-3) were analyzed for alkalinity in accordance with EPA Method 310.1. The samples were analyzed on 02/07/2014 and 02/09/2014.

No difficulties were encountered during the alkalinity analysis.

All quality control parameters were within the acceptance limits.

CHLORIDE

Samples BSA-MW-2D-0214 (680-98328-1) and CPA-MW-3D-0214 (680-98328-3) were analyzed for Chloride in accordance with EPA Method 325.2. The samples were analyzed on 02/06/2014.

Samples BSA-MW-2D-0214 (680-98328-1)[5X] and CPA-MW-3D-0214 (680-98328-3)[10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No other difficulties were encountered during the chloride analysis.

All other quality control parameters were within the acceptance limits.

NITRATE-NITRITE AS NITROGEN

Samples BSA-MW-2D-0214 (680-98328-1) and CPA-MW-3D-0214 (680-98328-3) were analyzed for nitrate-nitrite as nitrogen in accordance with EPA Method 353.2. The samples were analyzed on 02/05/2014.

The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 314406 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Refer to the QC report for details.

No other difficulties were encountered during the nitrate-nitrite analysis.

All other quality control parameters were within the acceptance limits.

MAR 05 2014



Case Narrative

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98328-1
SDG: KPS107

Job ID: 680-98328-1 (Continued)

Laboratory: TestAmerica Savannah (Continued)

SULFATE

Samples BSA-MW-2D-0214 (680-98328-1) and CPA-MW-3D-0214 (680-98328-3) were analyzed for sulfate in accordance with EPA Method 375.4. The samples were analyzed on 02/06/2014.

Sample CPA-MW-3D-0214 (680-98328-3){10X} required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No difficulties were encountered during the sulfate analysis.

All quality control parameters were within the acceptance limits.

TOTAL ORGANIC CARBON

Samples BSA-MW-2D-0214 (680-98328-1) and CPA-MW-3D-0214 (680-98328-3) were analyzed for total organic carbon in accordance with EPA Method 415.1. The samples were analyzed on 02/06/2014.

No difficulties were encountered during the TOC analysis.

All quality control parameters were within the acceptance limits.

DISSOLVED ORGANIC CARBON (DOC)

Samples BSA-MW-2D-F(0.2)-0214 (680-98328-2) and CPA-MW-3D-F(0.2)-0214 (680-98328-4) were analyzed for Dissolved Organic Carbon (DOC) in accordance with EPA Method 415.1. The samples were analyzed on 02/07/2014.

No difficulties were encountered during the DOC analysis.

All quality control parameters were within the acceptance limits.

MAR 05 2014



Sample Summary

Client: Solutia Inc.

Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98328-1

SDG: KPS107

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-98328-1	BSA-MW-2D-0214	Water	02/04/14 10:45	02/05/14 09:46
680-98328-2	BSA-MW-2D-F(0.2)-0214	Water	02/04/14 10:45	02/05/14 09:46
680-98328-3	CPA-MW-3D-0214	Water	02/04/14 12:40	02/05/14 09:46
680-98328-4	CPA-MW-3D-F(0.2)-0214	Water	02/04/14 12:40	02/05/14 09:46
680-98328-5	CPA-MW-3D-0214-AD	Water	02/04/14 12:40	02/05/14 09:46
680-98328-6	1Q14 LTM Trip Blank #2	Water	02/04/14 00:00	02/05/14 09:46

MAR 05 2014

TestAmerica Savannah

Method Summary

Client: Solutia Inc.
Project/Site: W GK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98328-1
SDG: KPS107

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL SAV
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL SAV
RSK-175	Dissolved Gases (GC)	RSK	TAL SAV
6010C	Metals (ICP)	SW846	TAL SAV
310.1	Alkalinity	MCAWW	TAL SAV
325.2	Chloride	MCAWW	TAL SAV
353.2	Nitrogen, Nitrate-Nitrite	MCAWW	TAL SAV
375.4	Sulfate	MCAWW	TAL SAV
415.1	TOC	MCAWW	TAL SAV
415.1	DOC	MCAWW	TAL SAV

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

MAR 05 2014

TestAmerica Savannah

Definitions/Glossary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98328-1
SDG: KPS107

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
F1	MS and/or MSD Recovery exceeds the control limits

GC/MS Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
F1	MS and/or MSD Recovery exceeds the control limits

GC VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
*	RPD of the LCS and LCSD exceeds the control limits

Metals


Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

General Chemistry

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
F1	MS and/or MSD Recovery exceeds the control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
■	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

MAR 05 2014 

TestAmerica Savannah

Detection Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98328-1
SDG: KPS107

Client Sample ID: BSA-MW-2D-0214

Lab Sample ID: 680-98328-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	130000		2000		ug/L	2000		8260B	Total/NA
1,4-Dioxane	16		10		ug/L	1		8270D	Total/NA
Ethane	11		1.1		ug/L	1		RSK-175	Total/NA
Methane (TCD)	8700 *		390		ug/L	1		RSK-175	Total/NA
Iron	3.5		0.050		mg/L	1		6010C	Total
Manganese	0.56		0.010		mg/L	1		6010C	Recoverable Total
Chloride	100		5.0		mg/L	5		325.2	Recoverable Total/NA
Total Organic Carbon	6.8		1.0		mg/L	1		415.1	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Alkalinity	730		5.0		mg/L	1		310.1	Total/NA
Carbon Dioxide, Free	46		5.0		mg/L	1		310.1	Total/NA

Client Sample ID: BSA-MW-2D-F(0.2)-0214

Lab Sample ID: 680-98328-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron, Dissolved	3.5		0.050		mg/L	1		6010C	Dissolved
Manganese, Dissolved	0.56		0.010		mg/L	1		6010C	Dissolved
Dissolved Organic Carbon	6.3		1.0		mg/L	1		415.1	Dissolved

Client Sample ID: CPA-MW-3D-0214

Lab Sample ID: 680-98328-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	13000		100		ug/L	100		8260B	Total/NA
Chlorobenzene	270		100		ug/L	100		8260B	Total/NA
4-Chloroaniline	32		20		ug/L	1		8270D	Total/NA
Ethane	22		1.1		ug/L	1		RSK-175	Total/NA
Methane (TCD)	18000 *		390		ug/L	1		RSK-175	Total/NA
Iron	12		0.050		mg/L	1		6010C	Total
Manganese	0.78		0.010		mg/L	1		6010C	Recoverable Total
Chloride	350		10		mg/L	10		325.2	Recoverable Total/NA
Total Organic Carbon	9.2		1.0		mg/L	1		415.1	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Alkalinity	590		5.0		mg/L	1		310.1	Total/NA
Carbon Dioxide, Free	6.1		5.0		mg/L	1		310.1	Total/NA

Client Sample ID: CPA-MW-3D-F(0.2)-0214

Lab Sample ID: 680-98328-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron, Dissolved	12		0.050		mg/L	1		6010C	Dissolved
Manganese, Dissolved	0.79		0.010		mg/L	1		6010C	Dissolved
Dissolved Organic Carbon	8.4	J	1.0		mg/L	1		415.1	Dissolved


Client Sample ID: CPA-MW-3D-0214-AD

Lab Sample ID: 680-98328-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	14000		100		ug/L	100		8260B	Total/NA
Chlorobenzene	290		100		ug/L	100		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Savannah

MAR 05 2014 

Detection Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98328-1
SDG: KPS107

Client Sample ID: CPA-MW-3D-0214-AD (Continued)

Lab Sample ID: 680-98328-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
4-Chloroaniline	29		21		ug/L	1		8270D	Total/NA

Client Sample ID: 1Q14 LTM Trip Blank #2

Lab Sample ID: 680-98328-6

No Detections.

This Detection Summary does not include radiochemical test results.

MAR 05 2014
TestAmerica Savannah

Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98328-1
SDG: KPS107

Client Sample ID: BSA-MW-2D-0214

Lab Sample ID: 680-98328-1

Date Collected: 02/04/14 10:45

Matrix: Water

Date Received: 02/05/14 09:46

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	130000		2000		ug/L			02/06/14 15:14	2000
Chlorobenzene	2000	U	2000		ug/L			02/06/14 15:14	2000
1,2-Dichlorobenzene	2000	U	2000		ug/L			02/06/14 15:14	2000
1,3-Dichlorobenzene	2000	U	2000		ug/L			02/06/14 15:14	2000
1,4-Dichlorobenzene	2000	U	2000		ug/L			02/06/14 15:14	2000

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		70 - 130		02/06/14 15:14	2000
Dibromofluoromethane	113		70 - 130		02/06/14 15:14	2000
Toluene-d8 (Surr)	99		70 - 130		02/06/14 15:14	2000

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorophenol	10	U	10		ug/L		02/06/14 15:30	02/08/14 00:21	1
1,4-Dioxane	16		10		ug/L		02/06/14 15:30	02/08/14 00:21	1
1,2,4-Trichlorobenzene	10	U	10		ug/L		02/06/14 15:30	02/08/14 00:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	56		38 - 130	02/06/14 15:30	02/08/14 00:21	1
2-Fluorophenol	50		25 - 130	02/06/14 15:30	02/08/14 00:21	1
Nitrobenzene-d5	61		39 - 130	02/06/14 15:30	02/08/14 00:21	1
Phenol-d5	51		25 - 130	02/06/14 15:30	02/08/14 00:21	1
Terphenyl-d14	31		10 - 143	02/06/14 15:30	02/08/14 00:21	1
2,4,6-Tribromophenol	55		31 - 141	02/06/14 15:30	02/08/14 00:21	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MOL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	11		1.1		ug/L			02/13/14 15:42	1
Ethylene	1.0	U	1.0		ug/L			02/13/14 15:42	1
Methane (TCD)	8700	*	390		ug/L			02/13/14 15:42	1

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	3.5		0.050		mg/L		02/06/14 10:07	02/07/14 02:58	1
Manganese	0.66		0.010		mg/L		02/06/14 10:07	02/07/14 02:58	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	100		5.0		mg/L			02/06/14 11:56	5
Nitrate as N	0.050	U	0.050		mg/L			02/05/14 17:04	1
Sulfate	5.0	U	5.0		mg/L			02/06/14 14:07	1
Total Organic Carbon	6.8		1.0		mg/L			02/06/14 21:41	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	730		5.0		mg/L			02/07/14 15:43	1
Carbon Dioxide, Free	46		5.0		mg/L			02/07/14 15:43	1

MAR 05 2014

TestAmerica Savannah

Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98328-1
SDG: KPS107

Client Sample ID: BSA-MW-2D-F(0.2)-0214

Lab Sample ID: 680-98328-2

Date Collected: 02/04/14 10:45

Matrix: Water

Date Received: 02/05/14 09:46

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	3.5		0.050		mg/L		02/06/14 10:07	02/07/14 03:23	1
Manganese, Dissolved	0.56		0.010		mg/L		02/06/14 10:07	02/07/14 03:23	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	6.3		1.0		mg/L			02/07/14 16:50	1

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TestAmerica Savannah

Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98328-1
SDG: KPS107

Client Sample ID: CPA-MW-3D-0214

Lab Sample ID: 680-98328-3

Date Collected: 02/04/14 12:40

Matrix: Water

Date Received: 02/05/14 09:46

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	13000		100		ug/L			02/06/14 15:44	100
Chlorobenzene	270		100		ug/L			02/06/14 15:44	100
1,2-Dichlorobenzene	100	U	100		ug/L			02/06/14 15:44	100
1,3-Dichlorobenzene	100	U	100		ug/L			02/06/14 15:44	100
1,4-Dichlorobenzene	100	U	100		ug/L			02/06/14 15:44	100

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	100		70 - 130		02/06/14 15:44	100
Dibromofluoromethane	118		70 - 130		02/06/14 15:44	100
Toluene-d8 (Surr)	101		70 - 130		02/06/14 15:44	100

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloroaniline	32		20		ug/L		02/06/14 15:30	02/08/14 00:46	1
2-Chlorophenol	10	U	10		ug/L		02/06/14 15:30	02/08/14 00:46	1
1,2,4-Trichlorobenzene	10	U	10		ug/L		02/06/14 15:30	02/08/14 00:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	73		38 - 130	02/06/14 15:30	02/08/14 00:46	1
2-Fluorophenol	67		25 - 130	02/06/14 15:30	02/08/14 00:46	1
Nitrobenzene-d5	82		39 - 130	02/06/14 15:30	02/08/14 00:46	1
Phenol-d5	77		25 - 130	02/06/14 15:30	02/08/14 00:46	1
Terphenyl-d14	67		10 - 143	02/06/14 15:30	02/08/14 00:46	1
2,4,6-Tribromophenol	75		31 - 141	02/06/14 15:30	02/08/14 00:46	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	22		1.1		ug/L			02/13/14 15:55	1
Ethylene	1.0	U	1.0		ug/L			02/13/14 15:55	1
Methane (TCD)	18000	*	390		ug/L			02/13/14 15:55	1

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	12		0.050		mg/L		02/06/14 10:07	02/07/14 03:28	1
Manganese	0.78		0.010		mg/L		02/06/14 10:07	02/07/14 03:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	350		10		mg/L			02/06/14 11:56	10
Nitrate as N	0.050	U	0.050		mg/L			02/05/14 17:07	1
Sulfate	50	U	50		mg/L			02/06/14 14:27	10
Total Organic Carbon	9.2		1.0		mg/L			02/06/14 22:06	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	590		5.0		mg/L			02/09/14 09:42	1
Carbon Dioxide, Free	6.1		5.0		mg/L			02/09/14 09:42	1

MAR 05 2014

TestAmerica Savannah

Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98328-1
SDG: KPS107

Client Sample ID: CPA-MW-3D-F(0.2)-0214

Lab Sample ID: 680-98328-4

Date Collected: 02/04/14 12:40

Matrix: Water

Date Received: 02/05/14 09:46

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	12		0.050		mg/L		02/06/14 10:07	02/07/14 03:33	1
Manganese, Dissolved	0.79		0.010		mg/L		02/06/14 10:07	02/07/14 03:33	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	8.4	J	1.0		mg/L			02/07/14 17:33	1

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TestAmerica Savannah

Client Sample Results

Client: Solutia Inc.
Project/Site: W GK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98328-1
SDG: KPS107

Client Sample ID: CPA-MW-3D-0214-AD

Lab Sample ID: 680-98328-5

Date Collected: 02/04/14 12:40

Matrix: Water

Date Received: 02/05/14 09:46

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	14000		100		ug/L			02/07/14 14:27	100
Chlorobenzene	290		100		ug/L			02/07/14 14:27	100
1,2-Dichlorobenzene	100	U	100		ug/L			02/07/14 14:27	100
1,3-Dichlorobenzene	100	U	100		ug/L			02/07/14 14:27	100
1,4-Dichlorobenzene	100	U	100		ug/L			02/07/14 14:27	100
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		70 - 130					02/07/14 14:27	100
Dibromofluoromethane	120		70 - 130					02/07/14 14:27	100
Toluene-d8 (Surr)	108		70 - 130					02/07/14 14:27	100

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloroaniline	29		21		ug/L		02/06/14 15:30	02/08/14 01:10	1
2-Chlorophenol	11	U	11		ug/L		02/06/14 15:30	02/08/14 01:10	1
1,2,4-Trichlorobenzene	11	U	11		ug/L		02/06/14 15:30	02/08/14 01:10	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	72		38 - 130				02/06/14 15:30	02/08/14 01:10	1
2-Fluorophenol	69		25 - 130				02/06/14 15:30	02/08/14 01:10	1
Nitrobenzene-d5	78		39 - 130				02/06/14 15:30	02/08/14 01:10	1
Phenol-d5	71		25 - 130				02/06/14 15:30	02/08/14 01:10	1
Terphenyl-d14	60		10 - 143				02/06/14 15:30	02/08/14 01:10	1
2,4,6-Tribromophenol	71		31 - 141				02/06/14 15:30	02/08/14 01:10	1

MAR 05 2014

TestAmerica Savannah

Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98328-1
SDG: KPS107

Client Sample ID: 1Q14 LTM Trip Blank #2

Lab Sample ID: 680-98328-6

Date Collected: 02/04/14 00:00

Matrix: Water

Date Received: 02/05/14 09:46

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			02/06/14 17:12	1
Chlorobenzene	1.0	U	1.0		ug/L			02/06/14 17:12	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			02/06/14 17:12	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			02/06/14 17:12	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			02/06/14 17:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		70 - 130		02/06/14 17:12	1
Dibromofluoromethane	111		70 - 130		02/06/14 17:12	1
Toluene-d8 (Surr)	99		70 - 130		02/06/14 17:12	1

MAR 05 2014

TestAmerica Savannah

Surrogate Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98328-1
SDG: KPS107

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (70-130)	DBFM (70-130)	TOL (70-130)
680-98328-1	BSA-MW-2D-0214	102	113	99
680-98328-1 MS	BSA-MW-2D-0214	104	105	103
680-98328-1 MSD	BSA-MW-2D-0214	106	109	106
680-98328-3	CPA-MW-3D-0214	100	118	101
680-98328-5	CPA-MW-3D-0214-AD	102	120	108
680-98328-6	1Q14 LTM Trip Blank #2	99	111	99
LCS 680-314439/4	Lab Control Sample	106	106	106
LCS 680-314624/4	Lab Control Sample	117	116	124
LCSD 680-314439/5	Lab Control Sample Dup	103	103	104
LCSD 680-314624/5	Lab Control Sample Dup	115	116	120
MB 680-314439/8	Method Blank	99	112	96
MB 680-314624/9	Method Blank	101	119	107

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (38-130)	2FP (25-130)	NBZ (39-130)	PHL (25-130)	TPH (10-143)	TBP (31-141)
680-98328-1	BSA-MW-2D-0214	56	50	61	51	31	55
680-98328-1 MS	BSA-MW-2D-0214	61	56	64	61	54	68
680-98328-1 MSD	BSA-MW-2D-0214	63	63	69	64	62	72
680-98328-3	CPA-MW-3D-0214	73	67	82	77	67	75
680-98328-5	CPA-MW-3D-0214-AD	72	69	78	71	60	71
LCS 680-314294/7-A	Lab Control Sample	76	68	78	73	80	80
MB 680-314294/6-A	Method Blank	69	61	81	53	74	76

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPH = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

MAR 05 2014

TestAmerica Savannah

QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98328-1
SDG: KPS107

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 680-314439/8

Matrix: Water

Analysis Batch: 314439

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			02/06/14 12:47	1
Chlorobenzene	1.0	U	1.0		ug/L			02/06/14 12:47	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			02/06/14 12:47	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			02/06/14 12:47	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			02/06/14 12:47	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		70 - 130		02/06/14 12:47	1
Dibromofluoromethane	112		70 - 130		02/06/14 12:47	1
Toluene-d8 (Surr)	96		70 - 130		02/06/14 12:47	1

Lab Sample ID: LCS 680-314439/4

Matrix: Water

Analysis Batch: 314439

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	51.9		ug/L		104	74 - 123
Chlorobenzene	50.0	52.2		ug/L		104	79 - 120
1,2-Dichlorobenzene	50.0	53.4		ug/L		107	77 - 124
1,3-Dichlorobenzene	50.0	53.8		ug/L		108	79 - 123
1,4-Dichlorobenzene	50.0	52.8		ug/L		106	76 - 124

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	106		70 - 130
Dibromofluoromethane	106		70 - 130
Toluene-d8 (Surr)	106		70 - 130

Lab Sample ID: LCSD 680-314439/5

Matrix: Water

Analysis Batch: 314439

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	50.0	51.0		ug/L		102	74 - 123	2	30
Chlorobenzene	50.0	51.4		ug/L		103	79 - 120	2	30
1,2-Dichlorobenzene	50.0	53.0		ug/L		106	77 - 124	1	30
1,3-Dichlorobenzene	50.0	52.9		ug/L		106	79 - 123	2	30
1,4-Dichlorobenzene	50.0	51.7		ug/L		103	76 - 124	2	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene	103		70 - 130
Dibromofluoromethane	103		70 - 130
Toluene-d8 (Surr)	104		70 - 130

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QC Sample Results

Client: Solutia Inc.
Project/Site: W GK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98328-1
SDG: KPS107

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 680-98328-1 MS

Matrix: Water

Analysis Batch: 314439

Client Sample ID: BSA-MW-2D-0214

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	130000		100000	153000	F1	ug/L		24	74 - 123
Chlorobenzene	2000	U	100000	103000		ug/L		102	79 - 120
1,2-Dichlorobenzene	2000	U	100000	105000		ug/L		105	77 - 124
1,3-Dichlorobenzene	2000	U	100000	106000		ug/L		106	79 - 123
1,4-Dichlorobenzene	2000	U	100000	103000		ug/L		103	76 - 124
Surrogate									
	%Recovery	Qualifier	Limits						
4-Bromofluorobenzene	104		70 - 130						
Dibromofluoromethane	105		70 - 130						
Toluene-d8 (Surr)	103		70 - 130						

Lab Sample ID: 680-98328-1 MSD

Matrix: Water

Analysis Batch: 314439

Client Sample ID: BSA-MW-2D-0214

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	130000		100000	163000	F1	ug/L		34	74 - 123	6	30
Chlorobenzene	2000	U	100000	105000		ug/L		105	79 - 120	3	30
1,2-Dichlorobenzene	2000	U	100000	107000		ug/L		107	77 - 124	2	30
1,3-Dichlorobenzene	2000	U	100000	106000		ug/L		108	79 - 123	2	30
1,4-Dichlorobenzene	2000	U	100000	105000		ug/L		105	76 - 124	2	30
Surrogate											
	%Recovery	Qualifier	Limits								
4-Bromofluorobenzene	106		70 - 130								
Dibromofluoromethane	109		70 - 130								
Toluene-d8 (Surr)	106		70 - 130								

Lab Sample ID: MB 680-314624/9

Matrix: Water

Analysis Batch: 314624

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			02/07/14 13:28	1
Chlorobenzene	1.0	U	1.0		ug/L			02/07/14 13:28	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			02/07/14 13:28	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			02/07/14 13:28	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			02/07/14 13:28	1
Surrogate									
	%Recovery	Qualifier	Limits						
4-Bromofluorobenzene	101		70 - 130						
Dibromofluoromethane	119		70 - 130						
Toluene-d8 (Surr)	107		70 - 130						

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QC Sample Results

Client: Solutia Inc.
Project/Site: WGG Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98328-1
SDG: KPS107

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 680-314624/4
Matrix: Water
Analysis Batch: 314624

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	60.9		ug/L		122	74 - 123
Chlorobenzene	50.0	57.8		ug/L		116	79 - 120
1,2-Dichlorobenzene	50.0	56.8		ug/L		114	77 - 124
1,3-Dichlorobenzene	50.0	59.9		ug/L		120	79 - 123
1,4-Dichlorobenzene	50.0	58.5		ug/L		117	76 - 124

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	117		70 - 130
Dibromofluoromethane	116		70 - 130
Toluene-d8 (Surr)	124		70 - 130

Lab Sample ID: LCSD 680-314624/5
Matrix: Water
Analysis Batch: 314624

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	50.0	58.1		ug/L		116	74 - 123	5	30
Chlorobenzene	50.0	57.2		ug/L		114	79 - 120	1	30
1,2-Dichlorobenzene	50.0	56.3		ug/L		113	77 - 124	1	30
1,3-Dichlorobenzene	50.0	58.2		ug/L		116	79 - 123	3	30
1,4-Dichlorobenzene	50.0	56.7		ug/L		113	76 - 124	3	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene	115		70 - 130
Dibromofluoromethane	116		70 - 130
Toluene-d8 (Surr)	120		70 - 130

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 680-314294/6-A
Matrix: Water
Analysis Batch: 314885

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 314294

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloroaniline	20	U	20		ug/L		02/06/14 15:30	02/10/14 15:07	1
2-Chlorophenol	10	U	10		ug/L		02/06/14 15:30	02/10/14 15:07	1
1,4-Dioxane	10	U	10		ug/L		02/06/14 15:30	02/10/14 15:07	1
1,2,4-Trichlorobenzene	10	U	10		ug/L		02/06/14 15:30	02/10/14 15:07	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	69		38 - 130	02/06/14 15:30	02/10/14 15:07	1
2-Fluorophenol	61		25 - 130	02/06/14 15:30	02/10/14 15:07	1
Nitrobenzene-d5	81		39 - 130	02/06/14 15:30	02/10/14 15:07	1
Phenol-d5	53		25 - 130	02/06/14 15:30	02/10/14 15:07	1
Terphenyl-d14	74		10 - 143	02/06/14 15:30	02/10/14 15:07	1
2,4,6-Tribromophenol	76		31 - 141	02/06/14 15:30	02/10/14 15:07	1

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QC Sample Results

Client: Solutia Inc.
Project/Site: W GK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98328-1
SDG: KPS107

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 680-314294/7-A
Matrix: Water
Analysis Batch: 314717

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 314294

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Chloroaniline	100	55.8		ug/L		56	42 - 130
2-Chlorophenol	100	72.8		ug/L		73	57 - 130
1,4-Dioxane	100	59.0		ug/L		59	35 - 130
1,2,4-Trichlorobenzene	100	56.3		ug/L		56	42 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	76		38 - 130
2-Fluorophenol	68		25 - 130
Nitrobenzene-d5	78		39 - 130
Phenol-d5	73		25 - 130
Terphenyl-d14	80		10 - 143
2,4,6-Tribromophenol	80		31 - 141

Lab Sample ID: 680-98328-1 MS
Matrix: Water
Analysis Batch: 314717

Client Sample ID: BSA-MW-2D-0214
Prep Type: Total/NA
Prep Batch: 314294

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Chloroaniline	34		98.2	59.1	F1	ug/L		26	42 - 130
2-Chlorophenol	10	U	98.2	63.3		ug/L		64	57 - 130
1,4-Dioxane	16		98.2	69.1		ug/L		54	35 - 130
1,2,4-Trichlorobenzene	10	U	98.2	45.8		ug/L		47	42 - 130

Surrogate	MS %Recovery	MS Qualifier	Limits
2-Fluorobiphenyl	61		38 - 130
2-Fluorophenol	56		25 - 130
Nitrobenzene-d5	64		39 - 130
Phenol-d5	61		25 - 130
Terphenyl-d14	54		10 - 143
2,4,6-Tribromophenol	68		31 - 141

Lab Sample ID: 680-98328-1 MSD
Matrix: Water
Analysis Batch: 314717

Client Sample ID: BSA-MW-2D-0214
Prep Type: Total/NA
Prep Batch: 314294

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4-Chloroaniline	34		98.3	52.0	F1	ug/L		19	42 - 130	13	50
2-Chlorophenol	10	U	98.3	68.5		ug/L		70	57 - 130	8	50
1,4-Dioxane	16		98.3	74.5		ug/L		60	35 - 130	8	50
1,2,4-Trichlorobenzene	10	U	98.3	49.5		ug/L		50	42 - 130	8	50

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2-Fluorobiphenyl	63		38 - 130
2-Fluorophenol	63		25 - 130
Nitrobenzene-d5	69		39 - 130
Phenol-d5	64		25 - 130
Terphenyl-d14	62		10 - 143

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QC Sample Results

Client: Solutia Inc.
Project/Site: W GK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98328-1
SDG: KPS107

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 680-98328-1 MSD
Matrix: Water
Analysis Batch: 314717

Client Sample ID: BSA-MW-2D-0214
Prep Type: Total/NA
Prep Batch: 314294

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
2,4,6-Tribromophenol	72		31 - 141

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 680-315441/7
Matrix: Water
Analysis Batch: 315441

Client Sample ID: Method Blank
Prep Type: Total/NA

	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	1.1	U	1.1		ug/L			02/13/14 12:45	1
Ethylene	1.0	U	1.0		ug/L			02/13/14 12:45	1
Methane	0.58	U	0.58		ug/L			02/13/14 12:45	1
Methane (TCD)	390	U	390		ug/L			02/13/14 12:45	1

Lab Sample ID: LCS 680-315441/3
Matrix: Water
Analysis Batch: 315441

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

	Spike	LCS	LCS					%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Ethane	288	313		ug/L		108	75 - 125		
Ethylene	269	302		ug/L		112	75 - 125		
Methane	154	157		ug/L		102	75 - 125		

Lab Sample ID: LCS 680-315441/5
Matrix: Water
Analysis Batch: 315441

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

	Spike	LCS	LCS					%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Methane (TCD)	1920	1480		ug/L		77	75 - 125		

Lab Sample ID: LCSD 680-315441/4
Matrix: Water
Analysis Batch: 315441

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

	Spike	LCSD	LCSD					%Rec.		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits		RPD	Limit	
Ethane	288	301		ug/L		104	75 - 125		4	30	
Ethylene	269	288		ug/L		107	75 - 125		5	30	
Methane	154	153		ug/L		99	75 - 125		3	30	

Lab Sample ID: LCSD 680-315441/6
Matrix: Water
Analysis Batch: 315441

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

	Spike	LCSD	LCSD					%Rec.		RPD	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits		RPD	Limit	
Methane (TCD)	1920	2040	*	ug/L		106	75 - 125		32	30	

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QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98328-1
SDG: KPS107

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 680-314468/1-A
Matrix: Water
Analysis Batch: 314641

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 314468

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.050	U	0.050		mg/L		02/06/14 10:07	02/07/14 02:38	1
Iron, Dissolved	0.050	U	0.050		mg/L		02/06/14 10:07	02/07/14 02:38	1
Manganese	0.010	U	0.010		mg/L		02/06/14 10:07	02/07/14 02:38	1
Manganese, Dissolved	0.010	U	0.010		mg/L		02/06/14 10:07	02/07/14 02:38	1

Lab Sample ID: LCS 680-314468/2-A
Matrix: Water
Analysis Batch: 314641

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 314468

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	5.00	5.01		mg/L		100	75 - 125
Iron, Dissolved	5.00	5.01		mg/L		100	75 - 125
Manganese	0.500	0.530		mg/L		106	75 - 125
Manganese, Dissolved	0.500	0.530		mg/L		106	75 - 125

Lab Sample ID: 680-98328-1 MS
Matrix: Water
Analysis Batch: 314641

Client Sample ID: BSA-MW-2D-0214
Prep Type: Total Recoverable
Prep Batch: 314468

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	3.5		5.00	8.46		mg/L		99	75 - 125
Iron, Dissolved	3.5		5.00	8.46		mg/L		99	75 - 125
Manganese	0.56		0.500	1.08		mg/L		105	75 - 125
Manganese, Dissolved	0.56		0.500	1.08		mg/L		105	75 - 125

Lab Sample ID: 680-98328-1 MSD
Matrix: Water
Analysis Batch: 314641

Client Sample ID: BSA-MW-2D-0214
Prep Type: Total Recoverable
Prep Batch: 314468

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	3.5		5.00	8.40		mg/L		97	75 - 125	1	20
Iron, Dissolved	3.5		5.00	8.40		mg/L		97	75 - 125	1	20
Manganese	0.56		0.500	1.07		mg/L		103	75 - 125	1	20
Manganese, Dissolved	0.56		0.500	1.07		mg/L		103	75 - 125	1	20

Method: 310.1 - Alkalinity

Lab Sample ID: MB 680-314795/5
Matrix: Water
Analysis Batch: 314795

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	5.0	U	5.0		mg/L			02/07/14 14:38	1
Carbon Dioxide, Free	5.0	U	5.0		mg/L			02/07/14 14:38	1

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QC Sample Results

Client: Solutia Inc.
Project/Site: W GK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98328-1
SDG: KPS107

Method: 310.1 - Alkalinity (Continued)

Lab Sample ID: LCS 680-314795/6
Matrix: Water
Analysis Batch: 314795

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	250	231		mg/L		92	80 - 120

Lab Sample ID: LCSD 680-314795/22
Matrix: Water
Analysis Batch: 314795

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity	250	223		mg/L		89	80 - 120	3	30

Lab Sample ID: 680-98328-1 DU
Matrix: Water
Analysis Batch: 314795

Client Sample ID: BSA-MW-2D-0214
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity	730		681		mg/L		7	30
Carbon Dioxide, Free	46		40.2		mg/L		14	30

Lab Sample ID: 680-98328-3 DU
Matrix: Water
Analysis Batch: 314795

Client Sample ID: CPA-MW-3D-0214
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity	590		583		mg/L		2	30
Carbon Dioxide, Free	6.1		5.21		mg/L		15	30

Method: 325.2 - Chloride

Lab Sample ID: MB 680-314548/16
Matrix: Water
Analysis Batch: 314548

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.0	U	1.0		mg/L			02/06/14 11:57	1

Lab Sample ID: LCS 680-314548/1
Matrix: Water
Analysis Batch: 314548

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	25.0	26.0		mg/L		104	85 - 115

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 680-314406/14
Matrix: Water
Analysis Batch: 314406

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0.050	U	0.050		mg/L			02/05/14 17:02	1

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QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98328-1
SDG: KPS107

Method: 353.2 - Nitrogen, Nitrate-Nitrite (Continued)

Lab Sample ID: LCS 680-314406/13
Matrix: Water
Analysis Batch: 314406

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
Nitrate as N	0.500	0.544		mg/L		109	90 - 110	
Nitrate Nitrite as N	1.00	1.04		mg/L		104	90 - 110	
Nitrite as N	0.500	0.491		mg/L		98	90 - 110	

Lab Sample ID: 680-98328-1 MS
Matrix: Water
Analysis Batch: 314406

Client Sample ID: BSA-MW-2D-0214
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	
Nitrate as N	0.050	U	0.500	0.551		mg/L		110	90 - 110	
Nitrate Nitrite as N	0.050		1.00	1.06		mg/L		106	90 - 110	
Nitrite as N	0.050		0.500	0.514		mg/L		103	90 - 110	

Lab Sample ID: 680-98328-1 MSD
Matrix: Water
Analysis Batch: 314406

Client Sample ID: BSA-MW-2D-0214
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits		RPD	Limit
Nitrate as N	0.050	U	0.500	0.553	F1	mg/L		111	90 - 110		0	10
Nitrate Nitrite as N	0.050		1.00	1.07		mg/L		107	90 - 110		0	10
Nitrite as N	0.050		0.500	0.512		mg/L		102	90 - 110		0	10

Method: 375.4 - Sulfate

Lab Sample ID: MB 680-314563/5
Matrix: Water
Analysis Batch: 314563

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Sulfate	5.0	U	5.0		mg/L			02/06/14 14:09	1

Lab Sample ID: LCS 680-314563/17
Matrix: Water
Analysis Batch: 314563

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
Sulfate	20.0	20.1		mg/L		100	75 - 125	

Lab Sample ID: 680-98328-3 MS
Matrix: Water
Analysis Batch: 314563

Client Sample ID: CPA-MW-3D-0214
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	
Sulfate	50	U	200	196		mg/L		98	75 - 125	

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QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98328-1
SDG: KPS107

Method: 375.4 - Sulfate (Continued)

Lab Sample ID: 680-98328-3 MSD
Matrix: Water
Analysis Batch: 314563

Client Sample ID: CPA-MW-3D-0214
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	50	U	200	198		mg/L		99	75 - 125	1	30

Method: 415.1 - DOC

Lab Sample ID: MB 680-314915/2-A
Matrix: Water
Analysis Batch: 314912

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.0	U	1.0		mg/L			02/07/14 16:21	1

Lab Sample ID: LCS 680-314915/1-A
Matrix: Water
Analysis Batch: 314912

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	20.0	21.3		mg/L		106	80 - 120

Lab Sample ID: 680-98328-2 MS
Matrix: Water
Analysis Batch: 314912

Client Sample ID: BSA-MW-2D-F(0.2)-0214
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	6.3		20.0	27.6		mg/L		106	80 - 120

Lab Sample ID: 680-98328-2 MSD
Matrix: Water
Analysis Batch: 314912

Client Sample ID: BSA-MW-2D-F(0.2)-0214
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	6.3		20.0	27.4		mg/L		106	80 - 120	1	20

Method: 415.1 - TOC

Lab Sample ID: MB 680-314908/2
Matrix: Water
Analysis Batch: 314908

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1.0	U	1.0		mg/L			02/06/14 16:20	1

Lab Sample ID: LCS 680-314908/5
Matrix: Water
Analysis Batch: 314908

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	20.0	21.1		mg/L		106	80 - 120

TestAmerica Savannah

QC Sample Results

Client: Solutia Inc.
Project/Site: W GK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98328-1
SDG: KPS107

Method: 415.1 - TOC (Continued)

Lab Sample ID: 680-98328-1 DU

Matrix: Water

Analysis Batch: 314908

Client Sample ID: BSA-MW-2D-0214

Prep Type: Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	RPD	Limit
	Result	Qualifier	Result	Qualifier					
Total Organic Carbon	6.8		6.78		mg/L		0.3		25

TestAmerica Savannah

MAR 05 2014



QC Association Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98328-1
SDG: KPS107

GC/MS VOA

Analysis Batch: 314439

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98328-1	BSA-MW-2D-0214	Total/NA	Water	8260B	
680-98328-1 MS	BSA-MW-2D-0214	Total/NA	Water	8260B	
680-98328-1 MSD	BSA-MW-2D-0214	Total/NA	Water	8260B	
680-98328-3	CPA-MW-3D-0214	Total/NA	Water	8260B	
680-98328-6	1Q14 LTM Trip Blank #2	Total/NA	Water	8260B	
LCS 680-314439/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-314439/5	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-314439/8	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 314624

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98328-5	CPA-MW-3D-0214-AD	Total/NA	Water	8260B	
LCS 680-314624/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-314624/5	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-314624/9	Method Blank	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 314294

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98328-1	BSA-MW-2D-0214	Total/NA	Water	3520C	
680-98328-1 MS	BSA-MW-2D-0214	Total/NA	Water	3520C	
680-98328-1 MSD	BSA-MW-2D-0214	Total/NA	Water	3520C	
680-98328-3	CPA-MW-3D-0214	Total/NA	Water	3520C	
680-98328-5	CPA-MW-3D-0214-AD	Total/NA	Water	3520C	
LCS 680-314294/7-A	Lab Control Sample	Total/NA	Water	3520C	
MB 680-314294/6-A	Method Blank	Total/NA	Water	3520C	

Analysis Batch: 314717

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98328-1	BSA-MW-2D-0214	Total/NA	Water	8270D	314294
680-98328-1 MS	BSA-MW-2D-0214	Total/NA	Water	8270D	314294
680-98328-1 MSD	BSA-MW-2D-0214	Total/NA	Water	8270D	314294
680-98328-3	CPA-MW-3D-0214	Total/NA	Water	8270D	314294
680-98328-5	CPA-MW-3D-0214-AD	Total/NA	Water	8270D	314294
LCS 680-314294/7-A	Lab Control Sample	Total/NA	Water	8270D	314294

Analysis Batch: 314885

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 680-314294/6-A	Method Blank	Total/NA	Water	8270D	314294

GC VOA

Analysis Batch: 315441

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98328-1	BSA-MW-2D-0214	Total/NA	Water	RSK-175	
680-98328-3	CPA-MW-3D-0214	Total/NA	Water	RSK-175	
LCS 680-315441/3	Lab Control Sample	Total/NA	Water	RSK-175	
LCS 680-315441/5	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 680-315441/4	Lab Control Sample Dup	Total/NA	Water	RSK-175	

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QC Association Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98328-1
SDG: KPS107

GC VOA (Continued)

Analysis Batch: 315441 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 680-315441/6	Lab Control Sample Dup	Total/NA	Water	RSK-175	
MB 680-315441/7	Method Blank	Total/NA	Water	RSK-175	

Metals

Prep Batch: 314468

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98328-1	BSA-MW-2D-0214	Total Recoverable	Water	3005A	
680-98328-1 MS	BSA-MW-2D-0214	Total Recoverable	Water	3005A	
680-98328-1 MSD	BSA-MW-2D-0214	Total Recoverable	Water	3005A	
680-98328-2	BSA-MW-2D-F(0.2)-0214	Dissolved	Water	3005A	
680-98328-3	CPA-MW-3D-0214	Total Recoverable	Water	3005A	
680-98328-4	CPA-MW-3D-F(0.2)-0214	Dissolved	Water	3005A	
LCS 680-314468/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 680-314468/1-A	Method Blank	Total Recoverable	Water	3005A	

Analysis Batch: 314641

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98328-1	BSA-MW-2D-0214	Total Recoverable	Water	6010C	314468
680-98328-1 MS	BSA-MW-2D-0214	Total Recoverable	Water	6010C	314468
680-98328-1 MSD	BSA-MW-2D-0214	Total Recoverable	Water	6010C	314468
680-98328-2	BSA-MW-2D-F(0.2)-0214	Dissolved	Water	6010C	314468
680-98328-3	CPA-MW-3D-0214	Total Recoverable	Water	6010C	314468
680-98328-4	CPA-MW-3D-F(0.2)-0214	Dissolved	Water	6010C	314468
LCS 680-314468/2-A	Lab Control Sample	Total Recoverable	Water	6010C	314468
MB 680-314468/1-A	Method Blank	Total Recoverable	Water	6010C	314468

General Chemistry

Analysis Batch: 314406

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98328-1	BSA-MW-2D-0214	Total/NA	Water	353.2	
680-98328-1 MS	BSA-MW-2D-0214	Total/NA	Water	353.2	
680-98328-1 MSD	BSA-MW-2D-0214	Total/NA	Water	353.2	
680-98328-3	CPA-MW-3D-0214	Total/NA	Water	353.2	
LCS 680-314406/13	Lab Control Sample	Total/NA	Water	353.2	
MB 680-314406/14	Method Blank	Total/NA	Water	353.2	


Analysis Batch: 314548

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98328-1	BSA-MW-2D-0214	Total/NA	Water	325.2	
680-98328-3	CPA-MW-3D-0214	Total/NA	Water	325.2	
LCS 680-314548/1	Lab Control Sample	Total/NA	Water	325.2	
MB 680-314548/16	Method Blank	Total/NA	Water	325.2	

Analysis Batch: 314563

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98328-1	BSA-MW-2D-0214	Total/NA	Water	375.4	
680-98328-3	CPA-MW-3D-0214	Total/NA	Water	375.4	
680-98328-3 MS	CPA-MW-3D-0214	Total/NA	Water	375.4	

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QC Association Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98328-1
SDG: KPS107

General Chemistry (Continued)

Analysis Batch: 314563 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98328-3 MSD	CPA-MW-3D-0214	Total/NA	Water	375.4	
LCS 680-314563/17	Lab Control Sample	Total/NA	Water	375.4	
MB 680-314563/5	Method Blank	Total/NA	Water	375.4	

Analysis Batch: 314795

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98328-1	BSA-MW-2D-0214	Total/NA	Water	310.1	
680-98328-1 DU	BSA-MW-2D-0214	Total/NA	Water	310.1	
680-98328-3	CPA-MW-3D-0214	Total/NA	Water	310.1	
680-98328-3 DU	CPA-MW-3D-0214	Total/NA	Water	310.1	
LCS 680-314795/6	Lab Control Sample	Total/NA	Water	310.1	
LCSD 680-314795/22	Lab Control Sample Dup	Total/NA	Water	310.1	
MB 680-314795/5	Method Blank	Total/NA	Water	310.1	

Analysis Batch: 314908

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98328-1	BSA-MW-2D-0214	Total/NA	Water	415.1	
680-98328-1 DU	BSA-MW-2D-0214	Total/NA	Water	415.1	
680-98328-3	CPA-MW-3D-0214	Total/NA	Water	415.1	
LCS 680-314908/5	Lab Control Sample	Total/NA	Water	415.1	
MB 680-314908/2	Method Blank	Total/NA	Water	415.1	

Analysis Batch: 314912

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98328-2	BSA-MW-2D-F(0.2)-0214	Dissolved	Water	415.1	
680-98328-2 MS	BSA-MW-2D-F(0.2)-0214	Dissolved	Water	415.1	
680-98328-2 MSD	BSA-MW-2D-F(0.2)-0214	Dissolved	Water	415.1	
680-98328-4	CPA-MW-3D-F(0.2)-0214	Dissolved	Water	415.1	
LCS 680-314915/1-A	Lab Control Sample	Dissolved	Water	415.1	314915
MB 680-314915/2-A	Method Blank	Dissolved	Water	415.1	314915

Filtration Batch: 314915

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 680-314915/1-A	Lab Control Sample	Dissolved	Water	FILTRATION	
MB 680-314915/2-A	Method Blank	Dissolved	Water	FILTRATION	

TestAmerica Savannah

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Lab Chronicle

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98328-1
SDG: KPS107

Client Sample ID: BSA-MW-2D-0214

Lab Sample ID: 680-98328-1

Date Collected: 02/04/14 10:45

Matrix: Water

Date Received: 02/05/14 09:46

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2000	314439	02/06/14 15:14	MMT	TAL SAV
Total/NA	Prep	3520C			314294	02/06/14 15:30	RBS	TAL SAV
Total/NA	Analysis	8270D		1	314717	02/08/14 00:21	NED	TAL SAV
Total/NA	Analysis	RSK-175		1	315441	02/13/14 15:42	TAR	TAL SAV
Total Recoverable	Prep	3005A			314468	02/06/14 10:07	BJB	TAL SAV
Total Recoverable	Analysis	6010C		1	314641	02/07/14 02:58	BCB	TAL SAV
Total/NA	Analysis	353.2		1	314406	02/05/14 17:04	GRX	TAL SAV
Total/NA	Analysis	325.2		5	314548	02/06/14 11:56	JME	TAL SAV
Total/NA	Analysis	375.4		1	314563	02/06/14 14:07	JME	TAL SAV
Total/NA	Analysis	310.1		1	314795	02/07/14 15:43	LBH	TAL SAV
Total/NA	Analysis	415.1		1	314908	02/06/14 21:41	CMP	TAL SAV

Client Sample ID: BSA-MW-2D-F(0.2)-0214

Lab Sample ID: 680-98328-2

Date Collected: 02/04/14 10:45

Matrix: Water

Date Received: 02/05/14 09:46

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			314468	02/06/14 10:07	BJB	TAL SAV
Dissolved	Analysis	6010C		1	314641	02/07/14 03:23	BCB	TAL SAV
Dissolved	Analysis	415.1		1	314912	02/07/14 16:50	CMP	TAL SAV

Client Sample ID: CPA-MW-3D-0214

Lab Sample ID: 680-98328-3

Date Collected: 02/04/14 12:40

Matrix: Water

Date Received: 02/05/14 09:46

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		100	314439	02/06/14 15:44	MMT	TAL SAV
Total/NA	Prep	3520C			314294	02/06/14 15:30	RBS	TAL SAV
Total/NA	Analysis	8270D		1	314717	02/08/14 00:46	NED	TAL SAV
Total/NA	Analysis	RSK-175		1	315441	02/13/14 15:55	TAR	TAL SAV
Total Recoverable	Prep	3005A			314468	02/06/14 10:07	BJB	TAL SAV
Total Recoverable	Analysis	6010C		1	314641	02/07/14 03:28	BCB	TAL SAV
Total/NA	Analysis	353.2		1	314406	02/05/14 17:07	GRX	TAL SAV
Total/NA	Analysis	325.2		10	314548	02/06/14 11:56	JME	TAL SAV
Total/NA	Analysis	375.4		10	314563	02/06/14 14:27	JME	TAL SAV
Total/NA	Analysis	310.1		1	314795	02/09/14 09:42	LBH	TAL SAV
Total/NA	Analysis	415.1		1	314908	02/06/14 22:06	CMP	TAL SAV

TestAmerica Savannah

MAR 05 2014

Lab Chronicle

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98328-1
SDG: KPS107

Client Sample ID: CPA-MW-3D-F(0.2)-0214

Lab Sample ID: 680-98328-4

Date Collected: 02/04/14 12:40

Matrix: Water

Date Received: 02/05/14 09:46

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			314468	02/06/14 10:07	BJB	TAL SAV
Dissolved	Analysis	6010C		1	314641	02/07/14 03:33	BCB	TAL SAV
Dissolved	Analysis	415.1		1	314912	02/07/14 17:33	CMP	TAL SAV

Client Sample ID: CPA-MW-3D-0214-AD

Lab Sample ID: 680-98328-5

Date Collected: 02/04/14 12:40

Matrix: Water

Date Received: 02/05/14 09:46

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		100	314624	02/07/14 14:27	MMT	TAL SAV
Total/NA	Prep	3520C			314294	02/06/14 15:30	RBS	TAL SAV
Total/NA	Analysis	8270D		1	314717	02/08/14 01:10	NED	TAL SAV

Client Sample ID: 1Q14 LTM Trip Blank #2

Lab Sample ID: 680-98328-6

Date Collected: 02/04/14 00:00

Matrix: Water

Date Received: 02/05/14 09:46

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	314439	02/06/14 17:12	MMT	TAL SAV

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

TestAmerica Savannah

MAR 05 2014

Savannah
5102 LaRoche Avenue

Savannah, GA 31404
phone 912.354.7858 fax 912.352.0165

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact		Project Manager: Bob Billman		Site Contact: Michael Corbett		COC No:	
URS Corporation		Tel/Fax: (314) 743-4108		Lab Contact: Michele Kersey		Carrier: FedEx	
1001 Highlands Plaza Drive West, Suite 300		Analysis Turnaround Time				1 of 1 COCs	
St. Louis, MO 63110		Calendar (C) or Work Days (W) <u>C</u>					
(314) 429-0100 Phone		TAT if different from Below <u>Standard</u>					
(314) 429-0462 FAX		<input type="checkbox"/> 2 weeks					
Project Name: 1Q14 LTM GW Sampling		<input type="checkbox"/> 1 week					
Site: Solatia WG Krummrich Facility		<input type="checkbox"/> 2 days					
P O #		<input type="checkbox"/> 1 day					
Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	SDG No.
BSA-MW-2D-0214	2/4/14	1045	G	Water	16	3 2 1 1 1 3 2 3	
BSA-MW-2D-F(0.2)-0214		1045	G	Water	2	X	
BSA-MW-2D-0214-MS		1045	G		5	3 2	
BSA-MW-2D-0214-MSD		1045	G		5	3 2	
CPA-MW-3D-0214		1240	G		16	3 2 1 1 1 3 2 3	
CPA-MW-3D-F(0.2)-0214		1240	G		2	X	
CPA-MW-3D-0214-AD		1240	G		5	3 2	
1Q14 LTM Trip Blank # 2	2/4/14			Water	2	2	
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other						2 1 4 1 1 2 3 1 3 4 2	
Possible Hazard Identification						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Ion B <input type="checkbox"/> known						<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Live For _____ Months	
Special Instructions/QC Requirements & Comments:						680-98328 1.02	
Relinquished by: <u>WCH</u>	Company: URS	Date/Time: 2/4/14 8:15:00	Received by: <u>Chapman</u>	Company: TAF	Date/Time: 02-05-14 0946		
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:		
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:		



680-98328 Chain of Custody

13

Login Sample Receipt Checklist

Client: Solutia Inc.

Job Number: 680-98328-1

SDG Number: KPS107

Login Number: 98328

List Source: TestAmerica Savannah

List Number: 1

Creator: Banda, Christy S

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	line B4 ph needs to be adju.
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Certification Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98328-1
SDG: KPS107

Laboratory: TestAmerica Savannah

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
	AFCEE		SAVLAB	
A2LA	DoD ELAP		399.01	02-28-15
A2LA	ISO/IEC 17025		399.01	02-28-15
Alabama	State Program	4	41450	06-30-14
Arkansas DEQ	State Program	6	88-0692	01-31-15
California	NELAP	9	3217CA	07-31-14
Colorado	State Program	8	N/A	12-31-14
Connecticut	State Program	1	PH-0161	03-31-15
Florida	NELAP	4	E87052	06-30-14
GA Dept. of Agriculture	State Program	4	N/A	06-30-14
Georgia	State Program	4	N/A	06-30-14
Georgia	State Program	4	803	06-30-14
Guam	State Program	9	09-005r	04-17-14
Hawaii	State Program	9	N/A	06-30-14
Illinois	NELAP	5	200022	11-30-14
Indiana	State Program	5	N/A	06-30-14
Iowa	State Program	7	353	07-01-15
Kentucky (DW)	State Program	4	90084	12-31-14
Kentucky (UST)	State Program	4	18	06-30-14
Louisiana	NELAP	6	LA100015	12-31-14
Maine	State Program	1	GA00006	08-16-14
Maryland	State Program	3	250	12-31-14
Massachusetts	State Program	1	M-GA006	06-30-14
Michigan	State Program	5	9925	06-30-14
Mississippi	State Program	4	N/A	06-30-14
Montana	State Program	8	CERT0081	01-01-15
Nebraska	State Program	7	TestAmerica-Savannah	06-30-14
New Jersey	NELAP	2	GA769	06-30-14
New Mexico	State Program	6	N/A	06-30-14
New York	NELAP	2	10842	03-31-14
North Carolina DENR	State Program	4	269	12-31-14
North Carolina DHHS	State Program	4	13701	07-31-14
Oklahoma	State Program	6	9984	08-31-14
Pennsylvania	NELAP	3	68-00474	06-30-14
Puerto Rico	State Program	2	GA00006	01-01-14 *
South Carolina	State Program	4	98001	06-30-14
Tennessee	State Program	4	TN02961	06-30-14
Texas	NELAP	6	T104704185-08-TX	11-30-14
USDA	Federal		SAV 3-04	04-07-14
Virginia	NELAP	3	460161	06-14-14
Washington	State Program	10	C1794	06-10-14
West Virginia DEP	State Program	3	94	06-30-14
West Virginia DHHR	State Program	3	9950C	12-31-13 *
Wisconsin	State Program	5	999819810	08-31-14
Wyoming	State Program	8	8TMS-L	06-30-14

* Expired certification is currently pending renewal and is considered valid.

TestAmerica Savannah

APR 05 2014

Solutia Krummrich Data Review WGK LTM 1Q14

Laboratory SDG: KPS108

Data Reviewer: Melissa Mansker

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 3/6/2014

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2008. USEPA National Functional Guidelines for Superfund Inorganic Data Review 2010

Work Plan: Revised Long-Term Monitoring Program (LTMP) Work Plan (Solutia 2009)

Sample Identification	
BSA-MW-5D-0214	BSA-MW-5D-F(0.2)-0214
BSA-MW-4D-0214	BSA-MW-4D-F(0.2)-0214
BSA-MW-5D-0214-EB	1Q14 LTM Trip Blank #3

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated that the methane LCS/LCSD RPD was outside evaluation criteria, and LCS/LCSD recoveries were outside evaluation criteria for 4-chloroaniline and nitrate. Nitrate MS/MSD recoveries were outside evaluation criteria for sample BSA-MW-5D-0214. Internal standard perylene-d₁₂ was outside evaluation criteria in sample BSA-MW-4D-0214. Samples were diluted due to high levels of target analytes. Instrument calibration was outside evaluation criteria for nitrate in samples BSA-MW-5D-0214 and BSA-MW-4D-0214. These issues are addressed further in the appropriate sections below.

The cooler receipt form indicated that one of one cooler was received by the laboratory at a temperature of 0.6°C which is outside the 4°C ± 2°C criteria. The samples were received in good condition; therefore no qualification of data was required. The cooler receipt form indicated a pH > 2 for dissolved organic carbon in samples BSA-MW-4D-F(0.2)-0214 and BSA-MW-5D-F(0.2)-0214; please see section 11.0 of this review for qualifications. Additionally, the equipment blank BSA-MW-5D-0214-EB was inadvertently labeled incorrectly on the COC and on sample ID labels. URS notified the laboratory; no qualification of data was required.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

No

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD/ RPD Criteria
LCS/LCSD 680-315638/7/8-A	SVOCs	4-Chloroaniline	14/12	14	42-130/50
LCS/LCSD 680-315441/5/6	Dissolved gases	Methane	77/106	32	75-125/30
LCS 680-315033/14	General chemistry	Nitrate	111	NA	90-110

Analytical data that required qualification based on LCS data are included in the table below. The compound 4-chloroaniline is not reported for the associated samples. Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. Methane LCS/LCSD recoveries were within evaluation criteria; samples are not qualified based on LCS/LCSD RPD alone; therefore, methane data associated did not require qualification. No qualification of data was required.

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples collected as part of this SDG?

Yes, although not requested, sample BSA-MW-4D-F(0.2)-0214 was spiked and analyzed for dissolved metals, sample BSA-MW-4D-0214 was spiked and analyzed for chloride, and sample BSA-MW-5D-0214 was spiked and analyzed for nitrate.

Were MS/MSD recoveries within evaluation criteria?

No

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery	RPD	MS/MSD/ RPD Criteria
BSA-MW-5D-0214	General chemistry	Nitrate	110/111	0	90-110/10

Analytical results reported as non-detect and associated with MS/MSD recoveries above evaluation criteria, indicating a high bias, did not require qualification. No qualification of data was required.

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

No

Sample ID	Parameter	Analyte	IS Area Recovery	IS Criteria
BSA-MW-4D-0214	SVOCs	Perylene-d ₁₂	779036	1352113-5408452

Sample BSA-MW-4D-0214 did not have analytical data associated with internal standard perylene-d₁₂. No qualification of data was required.

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

Yes, sample BSA-MW-4D-0214 was spiked and analyzed for total organic carbon.

Were laboratory duplicate sample RPDs within criteria?

Yes

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

10.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

11.0 Additional Qualifications

Were additional qualifications applied?

Yes, the following samples are qualified, as summarized below, due to pH > 2.

Sample ID	Parameter	Analyte	Qualification
BSA-MW-5D-F(0.2)-0214	General chemistry	Dissolved organic carbon	J
BSA-MW-4D-F(0.2)-0214	General chemistry	Dissolved organic carbon	J

Additionally, the following samples are qualified, as summarized below, due to instrument calibration outside evaluation criteria for nitrate.

Sample ID	Parameter	Analyte	Qualification
BSA-MW-5D-0214	General chemistry	Nitrate	UJ
BSA-MW-4D-0214	General chemistry	Nitrate	UJ

SDG KPS108

Results of Samples from Monitoring Well:

BSA-MW-4D

BSA-MW-5D

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

TestAmerica Job ID: 680-98461-1
TestAmerica Sample Delivery Group: KPS108
Client Project/Site: WGK Long Term Monitoring - 1Q14

For:
Solutia Inc.
575 Maryville Centre Dr.
Saint Louis, Missouri 63141

Attn: Mr. Jerry Rinaldi

Michele R. Kersey

Authorized for release by:
2/25/2014 12:32:47 PM

Michele Kersey, Project Manager I
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LINKS

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The
Expert**

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Reviewed on
MAR 06 2014
MY

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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MAR 06 2014



Case Narrative

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98461-1
SDG: KPS108

Job ID: 680-98461-1

Laboratory: TestAmerica Savannah

Narrative

CASE NARRATIVE

Client: Solutia Inc.

Project: WGK Long Term Monitoring - 1Q14

Report Number: 680-98461-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT

The samples were received on 2/8/2014 10:21 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.6° C.

Except:

Per the client Nathan McNurlen, the sample ID on the COC and container labels was incorrect, the correct sample ID is :
BSA-MW-05D-0214-EB (BSA-MW-05D-0214-EB (680-98461-5))

Method(s) 415.1: The following sample(s) were collected in properly preserved bottles for analysis of total organic compounds (TOCs). However, the pH was outside the required criteria when verified by the laboratory, and corrective action was not possible:
BSA-MW-04D-F(0.2)-0214 (680-98461-4), BSA-MW-05D-F(0.2)-0214 (680-98461-2).

VOLATILE ORGANIC COMPOUNDS (GC-MS)

Samples BSA-MW-05D-0214 (680-98461-1), BSA-MW-04D-0214 (680-98461-3), BSA-MW-05D-0214-EB (680-98461-5) and 1Q14 LTM Trip Blank #3 (680-98461-6) were analyzed for Volatile Organic Compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 02/13/2014.

Samples BSA-MW-05D-0214 (680-98461-1)[5X] and BSA-MW-04D-0214 (680-98461-3)[25X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No difficulties were encountered during the volatiles analysis.

All quality control parameters were within the acceptance limits.

SEMIVOLATILE ORGANIC COMPOUNDS (AQUEOUS)

Samples BSA-MW-05D-0214 (680-98461-1), BSA-MW-04D-0214 (680-98461-3) and BSA-MW-05D-0214-EB (680-98461-5) were analyzed for Semivolatile Organic Compounds (Aqueous) in accordance with EPA SW-846 Method 8270D. The samples were prepared on 02/14/2014 and analyzed on 02/17/2014.

No difficulties were encountered during the semivolatiles analysis.

All quality control parameters were within the acceptance limits.

DISSOLVED GASES

Samples BSA-MW-05D-0214 (680-98461-1) and BSA-MW-04D-0214 (680-98461-3) were analyzed for dissolved gases in accordance with RSK-175. The samples were analyzed on 02/13/2014.

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Case Narrative

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98461-1
SDG: KPS108

Job ID: 680-98461-1 (Continued)

Laboratory: TestAmerica Savannah (Continued)

Methane (TCD) exceeded the RPD limit for LCSD 680-315441/6. Refer to the QC report for details.

No other difficulties were encountered during the dissolved gases analysis.

All other quality control parameters were within the acceptance limits.

METALS (ICP)

Samples BSA-MW-05D-F(0.2)-0214 (680-98461-2) and BSA-MW-04D-F(0.2)-0214 (680-98461-4) were analyzed for Metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 02/10/2014 and 02/11/2014 and analyzed on 02/11/2014.

No difficulties were encountered during the metals analysis.

All quality control parameters were within the acceptance limits.

METALS (ICP)

Samples BSA-MW-05D-0214 (680-98461-1) and BSA-MW-04D-0214 (680-98461-3) were analyzed for Metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 02/10/2014 and analyzed on 02/11/2014.

No difficulties were encountered during the metals analysis.

All quality control parameters were within the acceptance limits.

ALKALINITY

Samples BSA-MW-05D-0214 (680-98461-1) and BSA-MW-04D-0214 (680-98461-3) were analyzed for alkalinity in accordance with EPA Method 310.1. The samples were analyzed on 02/09/2014.

No difficulties were encountered during the alkalinity analysis.

All quality control parameters were within the acceptance limits.

CHLORIDE

Samples BSA-MW-05D-0214 (680-98461-1) and BSA-MW-04D-0214 (680-98461-3) were analyzed for Chloride in accordance with EPA Method 325.2. The samples were analyzed on 02/11/2014.

Samples BSA-MW-05D-0214 (680-98461-1)[5X] and BSA-MW-04D-0214 (680-98461-3)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No difficulties were encountered during the chloride analysis.

All quality control parameters were within the acceptance limits.

NITRATE-NITRITE AS NITROGEN

Samples BSA-MW-05D-0214 (680-98461-1) and BSA-MW-04D-0214 (680-98461-3) were analyzed for nitrate-nitrite as nitrogen in accordance with EPA Method 353.2. The samples were analyzed on 02/09/2014.

The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 314786 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

The N03+ result is obtained from a calculation incorporating the Nitrate and Nitrite results. Re-analysis is not performed if QC for the calculated analyte does not meet acceptance criteria, provided the QC results for the component analytes are acceptable. Data have been qualified to denote this situation.

Refer to the QC report for details.

MAR 06 2014
[Signature]

Case Narrative

Client: Solutia Inc.
Project/Site: W GK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98461-1
SDG: KPS108

Job ID: 680-98461-1 (Continued)

Laboratory: TestAmerica Savannah (Continued)

No other difficulties were encountered during the nitrate-nitrite analysis.

All other quality control parameters were within the acceptance limits.

SULFATE

Samples BSA-MW-05D-0214 (680-98461-1) and BSA-MW-04D-0214 (680-98461-3) were analyzed for sulfate in accordance with EPA Method 375.4. The samples were analyzed on 02/11/2014.

Sample BSA-MW-04D-0214 (680-98461-3)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No difficulties were encountered during the sulfate analysis.

All quality control parameters were within the acceptance limits.

TOTAL ORGANIC CARBON

Samples BSA-MW-05D-0214 (680-98461-1) and BSA-MW-04D-0214 (680-98461-3) were analyzed for total organic carbon in accordance with EPA Method 415.1. The samples were analyzed on 02/11/2014.

No difficulties were encountered during the TOC analysis.

All quality control parameters were within the acceptance limits.

DISSOLVED ORGANIC CARBON (DOC)

Samples BSA-MW-05D-F(0.2)-0214 (680-98461-2) and BSA-MW-04D-F(0.2)-0214 (680-98461-4) were analyzed for Dissolved Organic Carbon (DOC) in accordance with EPA Method 415.1. The samples were analyzed on 02/11/2014 and 02/12/2014.

No difficulties were encountered during the DOC analysis.

All quality control parameters were within the acceptance limits.

MAR 06 2014



Sample Summary

Client: Solutia Inc.

Project/Site: W GK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98461-1

SDG: KPS108

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-98461-1	BSA-MW-05D-0214	Water	02/07/14 12:30	02/08/14 10:21
680-98461-2	BSA-MW-05D-F(0.2)-0214	Water	02/07/14 12:30	02/08/14 10:21
680-98461-3	BSA-MW-04D-0214	Water	02/07/14 15:30	02/08/14 10:21
680-98461-4	BSA-MW-04D-F(0.2)-0214	Water	02/07/14 15:30	02/08/14 10:21
680-98461-5	BSA-MW-05D-0214-EB	Water	02/07/14 08:30	02/08/14 10:21
680-98461-6	1Q14 LTM Trip Blank #3	Water	02/07/14 00:00	02/08/14 10:21

MAR 06 2014

TestAmerica Savannah

Method Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98461-1
SDG: KPS108

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL SAV
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL SAV
RSK-175	Dissolved Gases (GC)	RSK	TAL SAV
6010C	Metals (ICP)	SW846	TAL SAV
310.1	Alkalinity	MCAWW	TAL SAV
325.2	Chloride	MCAWW	TAL SAV
353.2	Nitrogen, Nitrate-Nitrite	MCAWW	TAL SAV
375.4	Sulfate	MCAWW	TAL SAV
415.1	TOC	MCAWW	TAL SAV
415.1	DOC	MCAWW	TAL SAV

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

MAR 06 2014



TestAmerica Savannah

Definitions/Glossary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98461-1
SDG: KPS108

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

GC/MS Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
*	LCS or LCSD exceeds the control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
*	RPD of the LCS and LCSD exceeds the control limits

Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

General Chemistry

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.
U	Indicates the analyte was analyzed for but not detected.
F1	MS and/or MSD Recovery exceeds the control limits
*	LCS or LCSD exceeds the control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

MAR 06 2014

TestAmerica Savannah

Detection Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98461-1
SDG: KPS108

Client Sample ID: BSA-MW-05D-0214

Lab Sample ID: 680-98461-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	24		5.0		ug/L	5		8260B	Total/NA
Chlorobenzene	460		5.0		ug/L	5		8260B	Total/NA
1,4-Dichlorobenzene	5.1		5.0		ug/L	5		8260B	Total/NA
Ethane	15		1.1		ug/L	1		RSK-175	Total/NA
Methane (TCD)	12000 *		390		ug/L	1		RSK-175	Total/NA
Iron	11		0.050		mg/L	1		6010C	Total Recoverable
Manganese	0.25		0.010		mg/L	1		6010C	Total Recoverable
Chloride	230		5.0		mg/L	5		325.2	Total/NA
Total Organic Carbon	8.9		1.0		mg/L	1		415.1	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Alkalinity	680		5.0		mg/L	1		310.1	Total/NA
Carbon Dioxide, Free	50		5.0		mg/L	1		310.1	Total/NA

Client Sample ID: BSA-MW-05D-F(0.2)-0214

Lab Sample ID: 680-98461-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron, Dissolved	12		0.050		mg/L	1		6010C	Dissolved
Manganese, Dissolved	0.26		0.010		mg/L	1		6010C	Dissolved
Dissolved Organic Carbon	8.7		1.0		mg/L	1		415.1	Dissolved

Client Sample ID: BSA-MW-04D-0214

Lab Sample ID: 680-98461-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	58		25		ug/L	25		8260B	Total/NA
Chlorobenzene	2200		25		ug/L	25		8260B	Total/NA
1,4-Dichlorobenzene	55		25		ug/L	25		8260B	Total/NA
2-Chlorophenol	16		10		ug/L	1		8270D	Total/NA
1,4-Dioxane	18		10		ug/L	1		8270D	Total/NA
Ethane	2.4		1.1		ug/L	1		RSK-175	Total/NA
Methane	270		0.58		ug/L	1		RSK-175	Total/NA
Iron	6.7		0.050		mg/L	1		6010C	Total Recoverable
Manganese	0.53		0.010		mg/L	1		6010C	Total Recoverable
Chloride	98		5.0		mg/L	5		325.2	Total/NA
Sulfate	130		25		mg/L	5		375.4	Total/NA
Total Organic Carbon	4.9		1.0		mg/L	1		415.1	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Alkalinity	520		5.0		mg/L	1		310.1	Total/NA
Carbon Dioxide, Free	35		5.0		mg/L	1		310.1	Total/NA

Client Sample ID: BSA-MW-04D-F(0.2)-0214

Lab Sample ID: 680-98461-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron, Dissolved	6.7		0.050		mg/L	1		6010C	Dissolved
Manganese, Dissolved	0.53		0.010		mg/L	1		6010C	Dissolved
Dissolved Organic Carbon	4.7		1.0		mg/L	1		415.1	Dissolved

This Detection Summary does not include radiochemical test results.

TestAmerica Savannah

MAR 06 2014

Detection Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98461-1
SDG: KPS108

Client Sample ID: BSA-MW-05D-0214-EB

Lab Sample ID: 680-98461-5

No Detections.

Client Sample ID: 1Q14 LTM Trip Blank #3

Lab Sample ID: 680-98461-6

No Detections.



This Detection Summary does not include radiochemical test results.

TestAmerica Savannah

MAR 06 2014

A handwritten signature in black ink, appearing to be 'M' or 'J' with a flourish.

Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98461-1
SDG: KPS108

Client Sample ID: BSA-MW-05D-0214

Lab Sample ID: 680-98461-1

Date Collected: 02/07/14 12:30

Matrix: Water

Date Received: 02/08/14 10:21

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	24		5.0		ug/L			02/13/14 15:18	5
Chlorobenzene	460		5.0		ug/L			02/13/14 15:18	5
1,2-Dichlorobenzene	5.0	U	5.0		ug/L			02/13/14 15:18	5
1,3-Dichlorobenzene	5.0	U	5.0		ug/L			02/13/14 15:18	5
1,4-Dichlorobenzene	5.1		5.0		ug/L			02/13/14 15:18	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	100		70 - 130		02/13/14 15:18	5
Dibromofluoromethane	106		70 - 130		02/13/14 15:18	5
Toluene-d8 (Surr)	99		70 - 130		02/13/14 15:18	5

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorophenol	10	U	10		ug/L		02/14/14 16:00	02/17/14 13:43	1
1,4-Dioxane	10	U	10		ug/L		02/14/14 16:00	02/17/14 13:43	1
1,2,4-Trichlorobenzene	10	U	10		ug/L		02/14/14 16:00	02/17/14 13:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	64		38 - 130	02/14/14 16:00	02/17/14 13:43	1
2-Fluorophenol	63		25 - 130	02/14/14 16:00	02/17/14 13:43	1
Nitrobenzene-d5	78		39 - 130	02/14/14 16:00	02/17/14 13:43	1
Phenol-d5	68		25 - 130	02/14/14 16:00	02/17/14 13:43	1
Terphenyl-d14	59		10 - 143	02/14/14 16:00	02/17/14 13:43	1
2,4,6-Tribromophenol	75		31 - 141	02/14/14 16:00	02/17/14 13:43	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	15		1.1		ug/L			02/13/14 16:46	1
Ethylene	1.0	U	1.0		ug/L			02/13/14 16:46	1
Methane (TCD)	12000	*	390		ug/L			02/13/14 16:46	1

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	11		0.050		mg/L		02/10/14 09:44	02/11/14 17:11	1
Manganese	0.25		0.010		mg/L		02/10/14 09:44	02/11/14 17:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	230		5.0		mg/L			02/11/14 17:17	5
Nitrate as N	0.050	U ^ UJ	0.050		mg/L			02/09/14 11:10	1
Sulfate	5.0	U	5.0		mg/L			02/11/14 12:43	1
Total Organic Carbon	8.9		1.0		mg/L			02/11/14 20:07	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	680		5.0		mg/L			02/09/14 18:45	1
Carbon Dioxide, Free	50		5.0		mg/L			02/09/14 18:45	1

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Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98461-1
SDG: KPS108

Client Sample ID: BSA-MW-05D-F(0.2)-0214

Lab Sample ID: 680-98461-2

Date Collected: 02/07/14 12:30

Matrix: Water

Date Received: 02/08/14 10:21

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	12		0.050		mg/L		02/10/14 09:44	02/11/14 17:25	1
Manganese, Dissolved	0.26		0.010		mg/L		02/10/14 09:44	02/11/14 17:25	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	8.7	J	1.0		mg/L			02/11/14 23:46	1

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Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98461-1
SDG: KPS108

Client Sample ID: BSA-MW-04D-0214

Lab Sample ID: 680-98461-3

Date Collected: 02/07/14 15:30

Matrix: Water

Date Received: 02/08/14 10:21

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	58		25		ug/L			02/13/14 14:48	25
Chlorobenzene	2200		25		ug/L			02/13/14 14:48	25
1,2-Dichlorobenzene	25	U	25		ug/L			02/13/14 14:48	25
1,3-Dichlorobenzene	25	U	25		ug/L			02/13/14 14:48	25
1,4-Dichlorobenzene	55		25		ug/L			02/13/14 14:48	25

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98		70 - 130		02/13/14 14:48	25
Dibromofluoromethane	106		70 - 130		02/13/14 14:48	25
Toluene-d8 (Surr)	97		70 - 130		02/13/14 14:48	25

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	O	Prepared	Analyzed	Dil Fac
2-Chlorophenol	16		10		ug/L		02/14/14 16:00	02/17/14 14:07	1
1,4-Dioxane	18		10		ug/L		02/14/14 16:00	02/17/14 14:07	1
1,2,4-Trichlorobenzene	10	U	10		ug/L		02/14/14 16:00	02/17/14 14:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	91		38 - 130	02/14/14 16:00	02/17/14 14:07	1
2-Fluorophenol	71		25 - 130	02/14/14 16:00	02/17/14 14:07	1
Nitrobenzene-d5	85		39 - 130	02/14/14 16:00	02/17/14 14:07	1
Phenol-d5	62		25 - 130	02/14/14 16:00	02/17/14 14:07	1
Terphenyl-d14	79		10 - 143	02/14/14 16:00	02/17/14 14:07	1
2,4,6-Tribromophenol	98		31 - 141	02/14/14 16:00	02/17/14 14:07	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	2.4		1.1		ug/L			02/13/14 16:59	1
Ethylene	1.0	U	1.0		ug/L			02/13/14 16:59	1
Methane	270		0.58		ug/L			02/13/14 16:59	1

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	6.7		0.050		mg/L		02/10/14 09:44	02/11/14 17:29	1
Manganese	0.53		0.010		mg/L		02/10/14 09:44	02/11/14 17:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	98		5.0		mg/L			02/11/14 17:33	5
Nitrate as N	0.050	U ** <i>W</i>	0.050		mg/L			02/09/14 10:10	1
Sulfate	130		25		mg/L			02/11/14 13:40	5
Total Organic Carbon	4.9		1.0		mg/L			02/11/14 20:51	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	520		5.0		mg/L			02/09/14 18:36	1
Carbon Dioxide, Free	35		5.0		mg/L			02/09/14 18:36	1

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Client Sample Results

Client: Solutia Inc.

Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98461-1

SDG: KPS108

Client Sample ID: BSA-MW-04D-F(0.2)-0214

Lab Sample ID: 680-98461-4

Date Collected: 02/07/14 15:30

Matrix: Water

Date Received: 02/08/14 10:21

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	6.7		0.050		mg/L		02/11/14 09:35	02/11/14 22:14	1
Manganese, Dissolved	0.53		0.010		mg/L		02/11/14 09:35	02/11/14 22:14	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	4.7	J	1.0		mg/L			02/12/14 00:00	1

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Client Sample Results

Client: Solutia Inc.
Project/Site: W GK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98461-1
SDG: KPS108

Client Sample ID: BSA-MW-05D-0214-EB

Lab Sample ID: 680-98461-5

Date Collected: 02/07/14 08:30

Matrix: Water

Date Received: 02/08/14 10:21

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			02/13/14 14:18	1
Chlorobenzene	1.0	U	1.0		ug/L			02/13/14 14:18	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			02/13/14 14:18	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			02/13/14 14:18	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			02/13/14 14:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	94		70 - 130		02/13/14 14:18	1
Dibromofluoromethane	115		70 - 130		02/13/14 14:18	1
Toluene-d8 (Surr)	97		70 - 130		02/13/14 14:18	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorophenol	10	U	10		ug/L		02/14/14 16:00	02/17/14 14:32	1
1,4-Dioxane	10	U	10		ug/L		02/14/14 16:00	02/17/14 14:32	1
1,2,4-Trichlorobenzene	10	U	10		ug/L		02/14/14 16:00	02/17/14 14:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	67		38 - 130	02/14/14 16:00	02/17/14 14:32	1
2-Fluorophenol	67		25 - 130	02/14/14 16:00	02/17/14 14:32	1
Nitrobenzene-d5	79		39 - 130	02/14/14 16:00	02/17/14 14:32	1
Phenol-d5	76		25 - 130	02/14/14 16:00	02/17/14 14:32	1
Terphenyl-d14	78		10 - 143	02/14/14 16:00	02/17/14 14:32	1
2,4,6-Tribromophenol	79		31 - 141	02/14/14 16:00	02/17/14 14:32	1

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Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98461-1
SDG: KPS108

Client Sample ID: 1Q14 LTM Trip Blank #3

Lab Sample ID: 680-98461-6

Date Collected: 02/07/14 00:00

Matrix: Water

Date Received: 02/08/14 10:21

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			02/13/14 13:48	1
Chlorobenzene	1.0	U	1.0		ug/L			02/13/14 13:48	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			02/13/14 13:48	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			02/13/14 13:48	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			02/13/14 13:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	94		70 - 130		02/13/14 13:48	1
Dibromofluoromethane	113		70 - 130		02/13/14 13:48	1
Toluene-d8 (Surr)	95		70 - 130		02/13/14 13:48	1

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Surrogate Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98461-1
SDG: KPS108

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (70-130)	DBFM (70-130)	TOL (70-130)
680-98461-1	BSA-MW-05D-0214	100	106	99
680-98461-3	BSA-MW-04D-0214	98	106	97
680-98461-5	BSA-MW-05D-0214-EB	94	115	97
680-98461-6	1Q14 LTM Trip Blank #3	94	113	95
LCS 680-315401/4	Lab Control Sample	94	105	97
LCSD 680-315401/5	Lab Control Sample Dup	96	108	102
MB 680-315401/8	Method Blank	95	112	96

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (38-130)	2FP (25-130)	NBZ (39-130)	PHL (25-130)	TPH (10-143)	TBP (31-141)
680-98461-1	BSA-MW-05D-0214	64	63	78	68	59	75
680-98461-3	BSA-MW-04D-0214	91	71	85	62	79	98
680-98461-5	BSA-MW-05D-0214-EB	67	67	79	76	78	79
LCS 680-315638/7-A	Lab Control Sample	74	70	80	70	81	82
LCSD 680-315638/8-A	Lab Control Sample Dup	75	74	83	76	79	83
MB 680-315638/6-A	Method Blank	76	76	86	78	90	84

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPH = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

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QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98461-1
SDG: KPS108

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 680-315401/8
Matrix: Water
Analysis Batch: 315401

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			02/13/14 12:48	1
Chlorobenzene	1.0	U	1.0		ug/L			02/13/14 12:48	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			02/13/14 12:48	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			02/13/14 12:48	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			02/13/14 12:48	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	95		70 - 130		02/13/14 12:48	1
Dibromofluoromethane	112		70 - 130		02/13/14 12:48	1
Toluene-d8 (Surr)	96		70 - 130		02/13/14 12:48	1

Lab Sample ID: LCS 680-315401/4
Matrix: Water
Analysis Batch: 315401

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	48.9		ug/L		98	74 - 123
Chlorobenzene	50.0	49.8		ug/L		100	79 - 120
1,2-Dichlorobenzene	50.0	46.7		ug/L		93	77 - 124
1,3-Dichlorobenzene	50.0	46.2		ug/L		92	79 - 123
1,4-Dichlorobenzene	50.0	45.6		ug/L		91	76 - 124

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	94		70 - 130
Dibromofluoromethane	105		70 - 130
Toluene-d8 (Surr)	97		70 - 130

Lab Sample ID: LCSD 680-315401/5
Matrix: Water
Analysis Batch: 315401

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	50.0	50.4		ug/L		101	74 - 123	3	30
Chlorobenzene	50.0	50.4		ug/L		101	79 - 120	1	30
1,2-Dichlorobenzene	50.0	47.4		ug/L		95	77 - 124	1	30
1,3-Dichlorobenzene	50.0	47.2		ug/L		94	79 - 123	2	30
1,4-Dichlorobenzene	50.0	46.6		ug/L		93	76 - 124	2	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene	96		70 - 130
Dibromofluoromethane	108		70 - 130
Toluene-d8 (Surr)	102		70 - 130

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QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98461-1
SDG: KPS108

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 680-315638/6-A
Matrix: Water
Analysis Batch: 315832

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 315638

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorophenol	10	U	10		ug/L		02/14/14 16:00	02/17/14 12:05	1
1,4-Dioxane	10	U	10		ug/L		02/14/14 16:00	02/17/14 12:05	1
1,2,4-Trichlorobenzene	10	U	10		ug/L		02/14/14 16:00	02/17/14 12:05	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	76		38 - 130	02/14/14 16:00	02/17/14 12:05	1
2-Fluorophenol	76		25 - 130	02/14/14 16:00	02/17/14 12:05	1
Nitrobenzene-d5	86		39 - 130	02/14/14 16:00	02/17/14 12:05	1
Phenol-d5	78		25 - 130	02/14/14 16:00	02/17/14 12:05	1
Terphenyl-d14	90		10 - 143	02/14/14 16:00	02/17/14 12:05	1
2,4,6-Tribromophenol	84		31 - 141	02/14/14 16:00	02/17/14 12:05	1

Lab Sample ID: LCS 680-315638/7-A
Matrix: Water
Analysis Batch: 315832

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 315638

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
4-Chloroaniline	100	14.1	J *	ug/L		14	42 - 130
2-Chlorophenol	100	73.3		ug/L		73	57 - 130
1,4-Dioxane	100	65.1		ug/L		65	35 - 130
1,2,4-Trichlorobenzene	100	54.8		ug/L		55	42 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	74		38 - 130
2-Fluorophenol	70		25 - 130
Nitrobenzene-d5	80		39 - 130
Phenol-d5	70		25 - 130
Terphenyl-d14	81		10 - 143
2,4,6-Tribromophenol	82		31 - 141

Lab Sample ID: LCSD 680-315638/8-A
Matrix: Water
Analysis Batch: 315832

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 315638

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
4-Chloroaniline	100	12.3	J *	ug/L		12	42 - 130	14	50
2-Chlorophenol	100	75.2		ug/L		75	57 - 130	3	50
1,4-Dioxane	100	62.8		ug/L		63	35 - 130	4	50
1,2,4-Trichlorobenzene	100	56.5		ug/L		56	42 - 130	3	50

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl	75		38 - 130
2-Fluorophenol	74		25 - 130
Nitrobenzene-d5	83		39 - 130
Phenol-d5	76		25 - 130
Terphenyl-d14	79		10 - 143
2,4,6-Tribromophenol	83		31 - 141

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QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98461-1
SDG: KPS108

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 680-315441/7
Matrix: Water
Analysis Batch: 315441

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	1.1	U	1.1		ug/L			02/13/14 12:45	1
Ethylene	1.0	U	1.0		ug/L			02/13/14 12:45	1
Methane	0.58	U	0.58		ug/L			02/13/14 12:45	1
Methane (TCD)	390	U	390		ug/L			02/13/14 12:45	1

Lab Sample ID: LCS 680-315441/3
Matrix: Water
Analysis Batch: 315441

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethane	288	313		ug/L		108	75 - 125
Ethylene	269	302		ug/L		112	75 - 125
Methane	154	157		ug/L		102	75 - 125

Lab Sample ID: LCS 680-315441/5
Matrix: Water
Analysis Batch: 315441

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane (TCD)	1920	1480		ug/L		77	75 - 125

Lab Sample ID: LCSD 680-315441/4
Matrix: Water
Analysis Batch: 315441

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethane	288	301		ug/L		104	75 - 125	4	30
Ethylene	269	288		ug/L		107	75 - 125	5	30
Methane	154	153		ug/L		99	75 - 125	3	30

Lab Sample ID: LCSD 680-315441/6
Matrix: Water
Analysis Batch: 315441

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane (TCD)	1920	2040	*	ug/L		106	75 - 125	32	30

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 680-314841/1-A
Matrix: Water
Analysis Batch: 315187

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 314841

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.050	U	0.050		mg/L		02/10/14 09:44	02/11/14 15:46	1
Iron, Dissolved	0.050	U	0.050		mg/L		02/10/14 09:44	02/11/14 15:46	1
Manganese	0.010	U	0.010		mg/L		02/10/14 09:44	02/11/14 15:46	1
Manganese, Dissolved	0.010	U	0.010		mg/L		02/10/14 09:44	02/11/14 15:46	1

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QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98461-1
SDG: KPS108

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LCS 680-314841/2-A
Matrix: Water
Analysis Batch: 315187

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 314841

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
Iron	5.00	5.03		mg/L		101	75 - 125	
Iron, Dissolved	5.00	5.03		mg/L		101	75 - 125	
Manganese	0.500	0.504		mg/L		101	75 - 125	
Manganese, Dissolved	0.500	0.504		mg/L		101	75 - 125	

Lab Sample ID: MB 680-315011/1-A
Matrix: Water
Analysis Batch: 315187

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 315011

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Iron, Dissolved	0.050	U	0.050		mg/L		02/11/14 09:35	02/11/14 22:05	1
Manganese, Dissolved	0.010	U	0.010		mg/L		02/11/14 09:35	02/11/14 22:05	1

Lab Sample ID: LCS 680-315011/2-A
Matrix: Water
Analysis Batch: 315187

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 315011

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
Iron, Dissolved	5.00	5.00		mg/L		100	75 - 125	
Manganese, Dissolved	0.500	0.519		mg/L		104	75 - 125	

Lab Sample ID: 680-98461-4 MS
Matrix: Water
Analysis Batch: 315187

Client Sample ID: BSA-MW-04D-F(0.2)-0214
Prep Type: Dissolved
Prep Batch: 315011

Analyte	Sample Sample		Spike Added	MS MS		Unit	D	%Rec	%Rec. Limits	
	Result	Qualifier		Result	Qualifier					
Iron, Dissolved	6.7		5.00	11.8		mg/L		102	75 - 125	
Manganese, Dissolved	0.53		0.500	1.06		mg/L		105	75 - 125	

Lab Sample ID: 680-98461-4 MSD
Matrix: Water
Analysis Batch: 315187

Client Sample ID: BSA-MW-04D-F(0.2)-0214
Prep Type: Dissolved
Prep Batch: 315011

Analyte	Sample Sample		Spike Added	MSD MSD		Unit	D	%Rec	%Rec. Limits		RPD	
	Result	Qualifier		Result	Qualifier						RPD	Limit
Iron, Dissolved	6.7		5.00	11.7		mg/L		101	75 - 125		0	20
Manganese, Dissolved	0.53		0.500	1.06		mg/L		104	75 - 125		0	20

Method: 310.1 - Alkalinity

Lab Sample ID: MB 680-314807/5
Matrix: Water
Analysis Batch: 314807

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Alkalinity	5.0	U	5.0		mg/L			02/09/14 16:39	1
Carbon Dioxide, Free	5.0	U	5.0		mg/L			02/09/14 16:39	1

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MAR 06 2014

QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98461-1
SDG: KPS108

Method: 310.1 - Alkalinity (Continued)

Lab Sample ID: LCS 680-314807/6
Matrix: Water
Analysis Batch: 314807

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	250	246		mg/L		98	80 - 120

Lab Sample ID: LCSD 680-314807/26
Matrix: Water
Analysis Batch: 314807

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity	250	220		mg/L		88	80 - 120	11	30

Method: 325.2 - Chloride

Lab Sample ID: MB 680-315165/6
Matrix: Water
Analysis Batch: 315165

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.0	U	1.0		mg/L			02/11/14 17:18	1

Lab Sample ID: LCS 680-315165/12
Matrix: Water
Analysis Batch: 315165

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	25.0	25.7		mg/L		103	85 - 115

Lab Sample ID: 680-98461-3 MS
Matrix: Water
Analysis Batch: 315165

Client Sample ID: BSA-MW-04D-0214
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	98		25.0	121		mg/L		90	85 - 115

Lab Sample ID: 680-98461-3 MSD
Matrix: Water
Analysis Batch: 315165

Client Sample ID: BSA-MW-04D-0214
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	98		25.0	121		mg/L		91	85 - 115	0	30

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 680-314786/13
Matrix: Water
Analysis Batch: 314786

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0.050	U ^	0.050		mg/L			02/09/14 11:08	1

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WAR 06 2015

QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98461-1
SDG: KPS108

Method: 353.2 - Nitrogen, Nitrate-Nitrite (Continued)

Lab Sample ID: LCS 680-314786/14
Matrix: Water
Analysis Batch: 314786

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	0.500	0.549	^	mg/L		110	90 - 110
Nitrate Nitrite as N	1.00	1.05		mg/L		105	90 - 110
Nitrite as N	0.500	0.504		mg/L		101	90 - 110

Lab Sample ID: 680-98461-1 MS
Matrix: Water
Analysis Batch: 314786

Client Sample ID: BSA-MW-05D-0214
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	0.050	U ^	0.500	0.555	F1 ^	mg/L		111	90 - 110
Nitrate Nitrite as N	0.050		1.00	1.06		mg/L		106	90 - 110
Nitrite as N	0.050		0.500	0.506		mg/L		101	90 - 110

Lab Sample ID: 680-98461-1 MSD
Matrix: Water
Analysis Batch: 314786

Client Sample ID: BSA-MW-05D-0214
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate as N	0.050	U ^	0.500	0.552	^	mg/L		110	90 - 110	0	10
Nitrate Nitrite as N	0.050		1.00	1.06		mg/L		106	90 - 110	0	10
Nitrite as N	0.050		0.500	0.507		mg/L		101	90 - 110	0	10

Lab Sample ID: MB 680-315033/13
Matrix: Water
Analysis Batch: 315033

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0.050	U ^	0.050		mg/L			02/09/14 10:04	1

Lab Sample ID: LCS 680-315033/14
Matrix: Water
Analysis Batch: 315033

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	0.500	0.557	^ *	mg/L		111	90 - 110
Nitrate Nitrite as N	1.00	1.06		mg/L		106	90 - 110
Nitrite as N	0.500	0.504		mg/L		101	90 - 110

Method: 375.4 - Sulfate

Lab Sample ID: MB 680-315167/27
Matrix: Water
Analysis Batch: 315167

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	5.0	U	5.0		mg/L			02/11/14 16:25	1

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QC Sample Results

Client: Solutia Inc.
Project/Site: W GK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98461-1
SDG: KPS108

Method: 375.4 - Sulfate (Continued)

Lab Sample ID: LCS 680-315167/23
Matrix: Water
Analysis Batch: 315167

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	20.0		mg/L		100	75 - 125

Method: 415.1 - DOC

Lab Sample ID: MB 680-315326/2-A
Matrix: Water
Analysis Batch: 315320

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.0	U	1.0		mg/L			02/11/14 22:21	1

Lab Sample ID: LCS 680-315326/1-A
Matrix: Water
Analysis Batch: 315320

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	20.0	21.5		mg/L		108	80 - 120

Method: 415.1 - TOC

Lab Sample ID: MB 680-315319/24
Matrix: Water
Analysis Batch: 315319

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1.0	U	1.0		mg/L			02/11/14 17:31	1

Lab Sample ID: LCS 680-315319/25
Matrix: Water
Analysis Batch: 315319

Client Sample ID: Lab Control Sample
Prep Type: Total/NA


Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	20.0	21.5		mg/L		107	80 - 120

Lab Sample ID: 680-98461-3 DU
Matrix: Water
Analysis Batch: 315319

Client Sample ID: BSA-MW-04D-0214
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Organic Carbon	4.9		4.85		mg/L		1	25

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QC Association Summary

Client: Solutia Inc.
Project/Site: W GK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98461-1
SDG: KPS108

GC/MS VOA

Analysis Batch: 315401

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98461-1	BSA-MW-05D-0214	Total/NA	Water	8260B	
680-98461-3	BSA-MW-04D-0214	Total/NA	Water	8260B	
680-98461-5	BSA-MW-05D-0214-EB	Total/NA	Water	8260B	
680-98461-6	1Q14 LTM Trip Blank #3	Total/NA	Water	8260B	
LCS 680-315401/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-315401/5	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-315401/8	Method Blank	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 315638

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98461-1	BSA-MW-05D-0214	Total/NA	Water	3520C	
680-98461-3	BSA-MW-04D-0214	Total/NA	Water	3520C	
680-98461-5	BSA-MW-05D-0214-EB	Total/NA	Water	3520C	
LCS 680-315638/7-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 680-315638/8-A	Lab Control Sample Dup	Total/NA	Water	3520C	
MB 680-315638/6-A	Method Blank	Total/NA	Water	3520C	

Analysis Batch: 315832

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98461-1	BSA-MW-05D-0214	Total/NA	Water	8270D	315638
680-98461-3	BSA-MW-04D-0214	Total/NA	Water	8270D	315638
680-98461-5	BSA-MW-05D-0214-EB	Total/NA	Water	8270D	315638
LCS 680-315638/7-A	Lab Control Sample	Total/NA	Water	8270D	315638
LCSD 680-315638/8-A	Lab Control Sample Dup	Total/NA	Water	8270D	315638
MB 680-315638/6-A	Method Blank	Total/NA	Water	8270D	315638

GC VOA

Analysis Batch: 315441

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98461-1	BSA-MW-05D-0214	Total/NA	Water	RSK-175	
680-98461-3	BSA-MW-04D-0214	Total/NA	Water	RSK-175	
LCS 680-315441/3	Lab Control Sample	Total/NA	Water	RSK-175	
LCS 680-315441/5	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 680-315441/4	Lab Control Sample Dup	Total/NA	Water	RSK-175	
LCSD 680-315441/6	Lab Control Sample Dup	Total/NA	Water	RSK-175	
MB 680-315441/7	Method Blank	Total/NA	Water	RSK-175	

Metals

Prep Batch: 314841

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98461-1	BSA-MW-05D-0214	Total Recoverable	Water	3005A	
680-98461-2	BSA-MW-05D-F(0.2)-0214	Dissolved	Water	3005A	
680-98461-3	BSA-MW-04D-0214	Total Recoverable	Water	3005A	
LCS 680-314841/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 680-314841/1-A	Method Blank	Total Recoverable	Water	3005A	

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QC Association Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98461-1
SDG: KPS108

Metals (Continued)

Prep Batch: 315011

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98461-4	BSA-MW-04D-F(0.2)-0214	Dissolved	Water	3005A	
680-98461-4 MS	BSA-MW-04D-F(0.2)-0214	Dissolved	Water	3005A	
680-98461-4 MSD	BSA-MW-04D-F(0.2)-0214	Dissolved	Water	3005A	
LCS 680-315011/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 680-315011/1-A	Method Blank	Total Recoverable	Water	3005A	

Analysis Batch: 315187

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98461-1	BSA-MW-05D-0214	Total Recoverable	Water	6010C	314841
680-98461-2	BSA-MW-05D-F(0.2)-0214	Dissolved	Water	6010C	314841
680-98461-3	BSA-MW-04D-0214	Total Recoverable	Water	6010C	314841
680-98461-4	BSA-MW-04D-F(0.2)-0214	Dissolved	Water	6010C	315011
680-98461-4 MS	BSA-MW-04D-F(0.2)-0214	Dissolved	Water	6010C	315011
680-98461-4 MSD	BSA-MW-04D-F(0.2)-0214	Dissolved	Water	6010C	315011
LCS 680-314841/2-A	Lab Control Sample	Total Recoverable	Water	6010C	314841
LCS 680-315011/2-A	Lab Control Sample	Total Recoverable	Water	6010C	315011
MB 680-314841/1-A	Method Blank	Total Recoverable	Water	6010C	314841
MB 680-315011/1-A	Method Blank	Total Recoverable	Water	6010C	315011

General Chemistry

Analysis Batch: 314786

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98461-1	BSA-MW-05D-0214	Total/NA	Water	353.2	
680-98461-1 MS	BSA-MW-05D-0214	Total/NA	Water	353.2	
680-98461-1 MSD	BSA-MW-05D-0214	Total/NA	Water	353.2	
LCS 680-314786/14	Lab Control Sample	Total/NA	Water	353.2	
MB 680-314786/13	Method Blank	Total/NA	Water	353.2	

Analysis Batch: 314807

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98461-1	BSA-MW-05D-0214	Total/NA	Water	310.1	
680-98461-3	BSA-MW-04D-0214	Total/NA	Water	310.1	
LCS 680-314807/6	Lab Control Sample	Total/NA	Water	310.1	
LCSD 680-314807/26	Lab Control Sample Dup	Total/NA	Water	310.1	
MB 680-314807/5	Method Blank	Total/NA	Water	310.1	

Analysis Batch: 315033

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98461-3	BSA-MW-04D-0214	Total/NA	Water	353.2	
LCS 680-315033/14	Lab Control Sample	Total/NA	Water	353.2	
MB 680-315033/13	Method Blank	Total/NA	Water	353.2	

Analysis Batch: 315165

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98461-1	BSA-MW-05D-0214	Total/NA	Water	325.2	
680-98461-3	BSA-MW-04D-0214	Total/NA	Water	325.2	
680-98461-3 MS	BSA-MW-04D-0214	Total/NA	Water	325.2	
680-98461-3 MSD	BSA-MW-04D-0214	Total/NA	Water	325.2	
LCS 680-315165/12	Lab Control Sample	Total/NA	Water	325.2	

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QC Association Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98461-1
SDG: KPS108

General Chemistry (Continued)

Analysis Batch: 315165 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 680-315165/6	Method Blank	Total/NA	Water	325.2	

Analysis Batch: 315167

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98461-1	BSA-MW-05D-0214	Total/NA	Water	375.4	
680-98461-3	BSA-MW-04D-0214	Total/NA	Water	375.4	
LCS 680-315167/23	Lab Control Sample	Total/NA	Water	375.4	
MB 680-315167/27	Method Blank	Total/NA	Water	375.4	

Analysis Batch: 315319

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98461-1	BSA-MW-05D-0214	Total/NA	Water	415.1	
680-98461-3	BSA-MW-04D-0214	Total/NA	Water	415.1	
680-98461-3 DU	BSA-MW-04D-0214	Total/NA	Water	415.1	
LCS 680-315319/25	Lab Control Sample	Total/NA	Water	415.1	
MB 680-315319/24	Method Blank	Total/NA	Water	415.1	

Analysis Batch: 315320

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98461-2	BSA-MW-05D-F(0.2)-0214	Dissolved	Water	415.1	
680-98461-4	BSA-MW-04D-F(0.2)-0214	Dissolved	Water	415.1	
LCS 680-315326/1-A	Lab Control Sample	Dissolved	Water	415.1	315326
MB 680-315326/2-A	Method Blank	Dissolved	Water	415.1	315326

Filtration Batch: 315326

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 680-315326/1-A	Lab Control Sample	Dissolved	Water	FILTRATION	
MB 680-315326/2-A	Method Blank	Dissolved	Water	FILTRATION	

TestAmerica Savannah

MAR 06 2014

Lab Chronicle

Client: Solutia Inc.
Project/Site: WGG Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98461-1
SDG: KPS108

Client Sample ID: BSA-MW-05D-0214

Lab Sample ID: 680-98461-1

Date Collected: 02/07/14 12:30

Matrix: Water

Date Received: 02/08/14 10:21

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5	315401	02/13/14 15:18	MMT	TAL SAV
Total/NA	Prep	3520C			315638	02/14/14 16:00	RBS	TAL SAV
Total/NA	Analysis	8270D		1	315832	02/17/14 13:43	SMC	TAL SAV
Total/NA	Analysis	RSK-175		1	315441	02/13/14 16:46	TAR	TAL SAV
Total Recoverable	Prep	3005A			314841	02/10/14 09:44	BJB	TAL SAV
Total Recoverable	Analysis	6010C		1	315187	02/11/14 17:11	BCB	TAL SAV
Total/NA	Analysis	353.2		1	314786	02/09/14 11:10	GRX	TAL SAV
Total/NA	Analysis	310.1		1	314807	02/09/14 18:45	LBH	TAL SAV
Total/NA	Analysis	325.2		5	315165	02/11/14 17:17	JME	TAL SAV
Total/NA	Analysis	375.4		1	315167	02/11/14 12:43	JME	TAL SAV
Total/NA	Analysis	415.1		1	315319	02/11/14 20:07	CMP	TAL SAV

Client Sample ID: BSA-MW-05D-F(0.2)-0214

Lab Sample ID: 680-98461-2

Date Collected: 02/07/14 12:30

Matrix: Water

Date Received: 02/08/14 10:21

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			314841	02/10/14 09:44	BJB	TAL SAV
Dissolved	Analysis	6010C		1	315187	02/11/14 17:25	BCB	TAL SAV
Dissolved	Analysis	415.1		1	315320	02/11/14 23:46	CMP	TAL SAV

Client Sample ID: BSA-MW-04D-0214

Lab Sample ID: 680-98461-3

Date Collected: 02/07/14 15:30

Matrix: Water

Date Received: 02/08/14 10:21

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		25	315401	02/13/14 14:48	MMT	TAL SAV
Total/NA	Prep	3520C			315638	02/14/14 16:00	RBS	TAL SAV
Total/NA	Analysis	8270D		1	315832	02/17/14 14:07	SMC	TAL SAV
Total/NA	Analysis	RSK-175		1	315441	02/13/14 16:59	TAR	TAL SAV
Total Recoverable	Prep	3005A			314841	02/10/14 09:44	BJB	TAL SAV
Total Recoverable	Analysis	6010C		1	315187	02/11/14 17:29	BCB	TAL SAV
Total/NA	Analysis	310.1		1	314807	02/09/14 18:36	LBH	TAL SAV
Total/NA	Analysis	353.2		1	315033	02/09/14 10:10	GRX	TAL SAV
Total/NA	Analysis	325.2		5	315165	02/11/14 17:33	JME	TAL SAV
Total/NA	Analysis	375.4		5	315167	02/11/14 13:40	JME	TAL SAV
Total/NA	Analysis	415.1		1	315319	02/11/14 20:51	CMP	TAL SAV

TestAmerica Savannah

MAR 06 2014

Lab Chronicle

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98461-1
SDG: KPS108

Client Sample ID: BSA-MW-04D-F(0.2)-0214

Lab Sample ID: 680-98461-4

Date Collected: 02/07/14 15:30

Matrix: Water

Date Received: 02/08/14 10:21

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			315011	02/11/14 09:35	BJB	TAL SAV
Dissolved	Analysis	6010C		1	315187	02/11/14 22:14	BCB	TAL SAV
Dissolved	Analysis	415.1		1	315320	02/12/14 00:00	CMP	TAL SAV

Client Sample ID: BSA-MW-05D-0214-EB

Lab Sample ID: 680-98461-5

Date Collected: 02/07/14 08:30

Matrix: Water

Date Received: 02/08/14 10:21

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	315401	02/13/14 14:18	MMT	TAL SAV
Total/NA	Prep	3520C			315638	02/14/14 16:00	RBS	TAL SAV
Total/NA	Analysis	8270D		1	315832	02/17/14 14:32	SMC	TAL SAV

Client Sample ID: 1Q14 LTM Trip Blank #3

Lab Sample ID: 680-98461-6

Date Collected: 02/07/14 00:00

Matrix: Water

Date Received: 02/08/14 10:21

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	315401	02/13/14 13:48	MMT	TAL SAV

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

TestAmerica Savannah

MAR 06 2014

Savannah, GA 31404
phone 912.354.7855 fax 912.352.0165

TestAmerica

Client Contact						Project Manager: Bob Billman								Site Contact: Michael Corbett							COC No:										
URS Corporation						Tel/Fax: (314) 743-4108								Lab Contact: Michele Kersey							Carrier: <u>FedEx</u>		<u>1</u> of <u>1</u> COCs								
1001 Highlands Plaza Drive West, Suite 300						Analysis Turnaround Time																									
St. Louis, MO 63110						Calendar (C) or Work Days (W) <u>C</u>																									
(314) 429-0100 Phone						TAT if different from Below <u>Standard</u>																									
(314) 429-0462 FAX						<input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input checked="" type="checkbox"/> 2 days <input type="checkbox"/> 1 day																									
Project Name: 1Q14 LTM GW Sampling																															
Site: Solutia WG Krummrich Facility																															
P O #																															
Sample Identification						Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample VOCs by 8260B	SVCs by 8270D*	Total Fe/Mn by 6010C	Alk/CO ₂ by 310.1	Chloride by 325.2/Sulfate by 375.4	Dissolved Gases by RSK 175	Nitrate by 353.2	TOC by 415.1	Dissolved Fe/Mn by 6010C	DOC by 415.1	Sample Specific Notes:										
BSA-MN-05D -0214 ✓						2/7/14	1230	G	Water	16	3	2	1	1	1	3	2	3													
BSA-MW-05D F(0.2)-0214 ✓							1230	G	Water	2	X								1	1											
BSA-MW-04D - 0214 ✓							1530	I	I	16		3	2	1	1	3	2	3													
BSA-MW-04D - F(0.2)-0214 ✓							1530	I	I	2	X								1	1											
CPA-MW-05D-0214-EB							0830	I	I	5	3	2																			
*BSA-MW-05D-0214-EB							0830	I	I	5	3	2																			
REVISED ID per N.M.N. Order																															
d. Pappalardo																															
2/14/14																															
IQ14 LTM Trip Blank # <u>3</u>						2/7/14	00:00	G	Water	2		2																			
Preservation Used: 1= Ice; 2= HCl; 3= H ₂ SO ₄ ; 4= HNOS; 5= NaOH; 6= Other											2	1	4	1	1	2	3	1	4	2											
Possible Hazard Identification						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)																									
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Ion B <input type="checkbox"/> Known						<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Give For _____ Months																									
Special Instructions/QC Requirements & Comments:																															
Relinquished by: [Signature] Company: URS Date/Time: 2/7/14 1600 Received by: [Signature] Company: TA SW Date/Time: 02/08/14 1021																															

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REAR 0 6 2011

000-88461 Chain of Custody

680-98461
6.6°C

Login Sample Receipt Checklist

Client: Solutia Inc.

Job Number: 680-98461-1

SDG Number: KPS108

Login Number: 98461

List Source: TestAmerica Savannah

List Number: 1

Creator: Conner, Keaton

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

[Handwritten signature]

Certification Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98461-1
SDG: KPS108

Laboratory: TestAmerica Savannah

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
	AFCEE		SAVLAB	
A2LA	DoD ELAP		399.01	02-28-15
A2LA	ISO/IEC 17025		399.01	02-28-15
Alabama	State Program	4	41450	06-30-14
Arkansas DEQ	State Program	6	88-0692	01-31-15
California	NELAP	9	3217CA	07-31-14
Colorado	State Program	8	N/A	12-31-14
Connecticut	State Program	1	PH-0161	03-31-15
Florida	NELAP	4	E87052	06-30-14
GA Dept. of Agriculture	State Program	4	N/A	06-30-14
Georgia	State Program	4	N/A	06-30-14
Georgia	State Program	4	803	06-30-14
Guam	State Program	9	09-005r	04-17-14
Hawaii	State Program	9	N/A	06-30-14
Illinois	NELAP	5	200022	11-30-14
Indiana	State Program	5	N/A	06-30-14
Iowa	State Program	7	353	07-01-15
Kentucky (DW)	State Program	4	90084	12-31-14
Kentucky (UST)	State Program	4	18	06-30-14
Louisiana	NELAP	6	LA100015	12-31-14
Maine	State Program	1	GA00006	08-16-14
Maryland	State Program	3	250	12-31-14
Massachusetts	State Program	1	M-GA006	06-30-14
Michigan	State Program	5	9925	06-30-14
Mississippi	State Program	4	N/A	06-30-14
Montana	State Program	8	CERT0081	01-01-15
Nebraska	State Program	7	TestAmerica-Savannah	06-30-14
New Jersey	NELAP	2	GA769	06-30-14
New Mexico	State Program	6	N/A	06-30-14
New York	NELAP	2	10842	03-31-14
North Carolina DENR	State Program	4	269	12-31-14
North Carolina DHHS	State Program	4	13701	07-31-14
Oklahoma	State Program	6	9984	08-31-14
Pennsylvania	NELAP	3	68-00474	06-30-14
Puerto Rico	State Program	2	GA00006	01-01-14 *
South Carolina	State Program	4	98001	06-30-14
Tennessee	State Program	4	TN02961	06-30-14
Texas	NELAP	6	T104704185-08-TX	11-30-14
USDA	Federal		SAV 3-04	04-07-14
Virginia	NELAP	3	460161	06-14-14
Washington	State Program	10	C1794	06-10-14
West Virginia DEP	State Program	3	94	06-30-14
West Virginia DHHR	State Program	3	9950C	12-31-13 *
Wisconsin	State Program	5	999819810	08-31-14
Wyoming	State Program	8	8TMS-L	06-30-14

* Expired certification is currently pending renewal and is considered valid.

TestAmerica Savannah

Solutia Krummrich Data Review WGK LTM 1Q14

Laboratory SDG: KPS109

Data Reviewer: Melissa Mansker

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 3/7/2014

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2008. USEPA National Functional Guidelines for Superfund Inorganic Data Review 2010

Work Plan: Revised Long-Term Monitoring Program (LTMP) Work Plan (Solutia 2009)

Sample Identification	
GWE-5S-0214	GWE-5S-F(0.2)-0214
GWE-5M-0214	GWE-5M-F(0.2)-0214
GWE-5D-0214	GWE-5D-F(0.2)-0214
1Q14 LTM Trip Blank #4	

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated that the LCS recovery was outside evaluation criteria for nitrate. Samples were diluted due to high levels of target analytes. Instrument calibration was outside evaluation criteria for nitrate. These issues are addressed further in the appropriate sections below.

The cooler receipt form indicated a pH > 2 for dissolved organic carbon in sample GWE-5S-F(0.2)-0214; please see section 11.0 of this review for qualifications. The laboratory report was revised and re-issued on March 7, 2014 to include the case narrative which had not been included with the original report.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

No

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD/ RPD Criteria
LCS 680-315170/14	General chemistry	Nitrate	111	NA	90-110

Analytical data that required qualification based on LCS data are included in the table below. Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Sample ID	Parameter	Analyte	Qualification
GWE-5S-0214	General chemistry	Nitrate	J

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples collected as part of this SDG?

Yes, although not requested, sample GWE-5S-0214 was spiked and analyzed for total metals, chloride, and sulfate, and sample GWE-5S-F(0.2)-0214 was spiked and analyzed for dissolved organic carbon.

Were MS/MSD recoveries within evaluation criteria?

Yes

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

Yes, sample GWE-5M-0214 was duplicated and analyzed for chloride and sulfate. Sample GWE-5D-F(0.2)-0214 was duplicated and analyzed for dissolved organic carbon.

Were laboratory duplicate sample RPDs within criteria?

Yes

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

10.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

11.0 Additional Qualifications

Were additional qualifications applied?

Yes, the following samples are qualified, as summarized below, due to pH > 2.

Sample ID	Parameter	Analyte	Qualification
GWE-5S-F(0.2)-0214	General chemistry	Dissolved organic carbon	J

Additionally, the following sample is qualified, as summarized below, due to instrument calibration outside evaluation criteria for nitrate. Nitrate in sample GWE-5S-0214 was previously qualified in Section 5.0 of this data review due to LCS recovery data; no further qualification of sample GWE-5S-0214 was required.

Sample ID	Parameter	Analyte	Qualification
GWE-5M-0214	General chemistry	Nitrate	UJ
GWE-5D-0214	General chemistry	Nitrate	UJ

SDG KPS109

Results of Samples from Monitoring Well:

GWE-5S

GWE-5M

GWE-5D

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

TestAmerica Job ID: 680-98489-1
TestAmerica Sample Delivery Group: KPS109
Client Project/Site: WGK Long Term Monitoring - 1Q14
Revision: 1

For:
Solutia Inc.
575 Maryville Centre Dr.
Saint Louis, Missouri 63141

Attn: Mr. Jerry Rinaldi

Michele Kersey

Authorized for release by:
3/7/2014 3:25:20 PM

Michele Kersey, Project Manager I
(912)354-7858
michele.kersey@testamericainc.com

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The
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www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

*Reviewed on
MAR 07 2014*

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MAR 07 2014 

Case Narrative

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98489-1
SDG: KPS109

Job ID: 680-98489-1

Laboratory: TestAmerica Savannah

Narrative

CASE NARRATIVE

Client: Solutia Inc.

Project: WGK Long Term Monitoring - 1Q14

Report Number: 680-98489-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT

The samples were received on 2/11/2014 10:08 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.2° C.

Except:

Method(s) 415.1, SM 5310B: The following sample(s) were collected in properly preserved vials for analysis of total organic compounds (TOCs). However, the pH was outside the required criteria when verified by the laboratory, and corrective action was not possible: GWE-5S-F(0.2)-0214 (680-98489-2).

VOLATILE ORGANIC COMPOUNDS (GC-MS)

Samples GWE-5S-0214 (680-98489-1), GWE-5M-0214 (680-98489-3), GWE-5D-0214 (680-98489-5) and 1Q14 LTM Trip Blank #4 (680-98489-7) were analyzed for Volatile Organic Compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 02/20/2014 and 02/21/2014.

Sample GWE-5D-0214 (680-98489-5)[2X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No difficulties were encountered during the volatiles analysis.

All quality control parameters were within the acceptance limits.

DISSOLVED GASES

Samples GWE-5S-0214 (680-98489-1), GWE-5M-0214 (680-98489-3) and GWE-5D-0214 (680-98489-5) were analyzed for dissolved gases in accordance with RSK-175. The samples were analyzed on 02/14/2014.

No difficulties were encountered during the dissolved gases analysis.


All quality control parameters were within the acceptance limits.

METALS (ICP)

Samples GWE-5S-F(0.2)-0214 (680-98489-2), GWE-5M-F(0.2)-0214 (680-98489-4) and GWE-5D-F(0.2)-0214 (680-98489-6) were analyzed for Metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared and analyzed on 02/12/2014.

No difficulties were encountered during the metals analysis.

All quality control parameters were within the acceptance limits.

MAR 07 2014 

Case Narrative

Client: Solutia Inc.
Project/Site: W GK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98489-1
SDG: KPS109

Job ID: 680-98489-1 (Continued)

Laboratory: TestAmerica Savannah (Continued)

METALS (ICP)

Samples GWE-5S-0214 (680-98489-1), GWE-5M-0214 (680-98489-3) and GWE-5D-0214 (680-98489-5) were analyzed for Metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared and analyzed on 02/12/2014.

No difficulties were encountered during the metals analysis.

All quality control parameters were within the acceptance limits.

ALKALINITY

Samples GWE-5S-0214 (680-98489-1), GWE-5M-0214 (680-98489-3) and GWE-5D-0214 (680-98489-5) were analyzed for alkalinity in accordance with EPA Method 310.1. The samples were analyzed on 02/13/2014.

No difficulties were encountered during the alkalinity analysis.

All quality control parameters were within the acceptance limits.

CHLORIDE

Samples GWE-5S-0214 (680-98489-1), GWE-5M-0214 (680-98489-3) and GWE-5D-0214 (680-98489-5) were analyzed for Chloride in accordance with EPA Method 325.2. The samples were analyzed on 02/18/2014.

Sample GWE-5D-0214 (680-98489-5)[2X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No difficulties were encountered during the chloride analysis.

All quality control parameters were within the acceptance limits.

NITRATE-NITRITE AS NITROGEN

Samples GWE-5S-0214 (680-98489-1), GWE-5M-0214 (680-98489-3) and GWE-5D-0214 (680-98489-5) were analyzed for nitrate-nitrite as nitrogen in accordance with EPA Method 353.2. The samples were analyzed on 02/11/2014.

The nitrate result is obtained from a calculation incorporating the nitrite and nitrate + nitrite results. Re-analysis is not performed if QC for the calculated analyte does not meet acceptance criteria, provided the QC results for the component analytes are acceptable. Data have been qualified to denote this situation.

No difficulties were encountered during the nitrate-nitrite analysis.

All quality control parameters were within the acceptance limits.

SULFATE

Samples GWE-5S-0214 (680-98489-1), GWE-5M-0214 (680-98489-3) and GWE-5D-0214 (680-98489-5) were analyzed for sulfate in accordance with EPA Method 375.4. The samples were analyzed on 02/18/2014.

Samples GWE-5S-0214 (680-98489-1)[5X], GWE-5M-0214 (680-98489-3)[5X] and GWE-5D-0214 (680-98489-5)[10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No difficulties were encountered during the sulfate analysis.

All quality control parameters were within the acceptance limits.

TOTAL ORGANIC CARBON

Samples GWE-5S-0214 (680-98489-1), GWE-5M-0214 (680-98489-3) and GWE-5D-0214 (680-98489-5) were analyzed for total organic carbon in accordance with EPA Method 415.1. The samples were analyzed on 02/13/2014.

No difficulties were encountered during the TOC analysis.

MAR 07 2014 

Case Narrative

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98489-1
SDG: KPS109

Job ID: 680-98489-1 (Continued)

Laboratory: TestAmerica Savannah (Continued)

All quality control parameters were within the acceptance limits.


DISSOLVED ORGANIC CARBON (DOC)

Samples GWE-5S-F(0.2)-0214 (680-98489-2), GWE-5M-F(0.2)-0214 (680-98489-4) and GWE-5D-F(0.2)-0214 (680-98489-6) were analyzed for Dissolved Organic Carbon (DOC) in accordance with EPA Method 415.1. The samples were analyzed on 02/13/2014.

No difficulties were encountered during the DOC analysis.

All quality control parameters were within the acceptance limits.



MAR 07 2014 

Sample Summary

Client: Solutia Inc.

Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98489-1

SDG: KPS109

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-98489-1	GWE-5S-0214 ✓	Water	02/10/14 12:35	02/11/14 10:08
680-98489-2	GWE-5S-F(0.2)-0214 ✓	Water	02/10/14 12:35	02/11/14 10:08
680-98489-3	GWE-5M-0214 ✓	Water	02/10/14 14:25	02/11/14 10:08
680-98489-4	GWE-5M-F(0.2)-0214 ✓	Water	02/10/14 14:25	02/11/14 10:08
680-98489-5	GWE-5D-0214 ✓	Water	02/10/14 15:55	02/11/14 10:08
680-98489-6	GWE-5D-F(0.2)-0214 ✓	Water	02/10/14 15:55	02/11/14 10:08
680-98489-7	1Q14 LTM Trip Blank #4 ✓	Water	02/10/14 00:00	02/11/14 10:08

MAR 07 2014

TestAmerica Savannah

Method Summary

Client: Solutia Inc.

Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98489-1

SDG: KPS109

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL SAV
RSK-175	Dissolved Gases (GC)	RSK	TAL SAV
6010C	Metals (ICP)	SW846	TAL SAV
310.1	Alkalinity	MCAWW	TAL SAV
325.2	Chloride	MCAWW	TAL SAV
353.2	Nitrogen, Nitrate-Nitrite	MCAWW	TAL SAV
375.4	Sulfate	MCAWW	TAL SAV
415.1	TOC	MCAWW	TAL SAV
415.1	DOC	MCAWW	TAL SAV

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

MAR 07 2014

TestAmerica Savannah

Definitions/Glossary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98489-1
SDG: KPS109

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

GC VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

General Chemistry

Qualifier	Qualifier Description
*	LCS or LCSD exceeds the control limits
U	Indicates the analyte was analyzed for but not detected.
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard; Instrument related QC exceeds the control limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
u	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

MAR 07 2014

TestAmerica Savannah

Detection Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98489-1
SDG: KPS109

Client Sample ID: GWE-5S-0214

Lab Sample ID: 680-98489-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methane	0.92		0.58		ug/L	1		RSK-175	Total/NA
Iron	0.062		0.050		mg/L	1		6010C	Total Recoverable
Manganese	0.18		0.010		mg/L	1		6010C	Total Recoverable
Chloride	20		1.0		mg/L	1		325.2	Total/NA
Nitrate as N	0.28	J	0.050		mg/L	1		353.2	Total/NA
Sulfate	74		25		mg/L	5		375.4	Total/NA
Total Organic Carbon	2.4		1.0		mg/L	1		415.1	Total/NA
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Alkalinity	470		5.0		mg/L	1		310.1	Total/NA
Carbon Dioxide, Free	52		5.0		mg/L	1		310.1	Total/NA

Client Sample ID: GWE-5S-F(0.2)-0214

Lab Sample ID: 680-98489-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese, Dissolved	0.18		0.010		mg/L	1		6010C	Dissolved
Dissolved Organic Carbon	2.5	J	1.0		mg/L	1		415.1	Dissolved

Client Sample ID: GWE-5M-0214

Lab Sample ID: 680-98489-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methane	35		0.58		ug/L	1		RSK-175	Total/NA
Iron	24		0.050		mg/L	1		6010C	Total Recoverable
Manganese	1.3		0.010		mg/L	1		6010C	Total Recoverable
Chloride	47		1.0		mg/L	1		325.2	Total/NA
Sulfate	130		25		mg/L	5		375.4	Total/NA
Total Organic Carbon	2.2		1.0		mg/L	1		415.1	Total/NA
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Alkalinity	480		5.0		mg/L	1		310.1	Total/NA
Carbon Dioxide, Free	38		5.0		mg/L	1		310.1	Total/NA

Client Sample ID: GWE-5M-F(0.2)-0214

Lab Sample ID: 680-98489-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron, Dissolved	24		0.050		mg/L	1		6010C	Dissolved
Manganese, Dissolved	1.3		0.010		mg/L	1		6010C	Dissolved
Dissolved Organic Carbon	2.2		1.0		mg/L	1		415.1	Dissolved


Client Sample ID: GWE-5D-0214

Lab Sample ID: 680-98489-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	2.7		2.0		ug/L	2		8260B	Total/NA
Chlorobenzene	73		2.0		ug/L	2		8260B	Total/NA
1,2-Dichlorobenzene	2.2		2.0		ug/L	2		8260B	Total/NA
1,4-Dichlorobenzene	8.6		2.0		ug/L	2		8260B	Total/NA
Methane	53		0.58		ug/L	1		RSK-175	Total/NA
Iron	13		0.050		mg/L	1		6010C	Total Recoverable

This Detection Summary does not include radiochemical test results.

TestAmerica Savannah

MAR 07 2014 

Detection Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98489-1
SDG: KPS109

Client Sample ID: GWE-5D-0214 (Continued)

Lab Sample ID: 680-98489-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.39		0.010		mg/L	1		6010C	Total
									Recoverable
Chloride	90		2.0		mg/L	2		325.2	Total/NA
Sulfate	330		50		mg/L	10		375.4	Total/NA
Total Organic Carbon	2.7		1.0		mg/L	1		415.1	Total/NA
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Alkalinity	350		5.0		mg/L	1		310.1	Total/NA
Carbon Dioxide, Free	24		5.0		mg/L	1		310.1	Total/NA

Client Sample ID: GWE-5D-F(0.2)-0214

Lab Sample ID: 680-98489-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron, Dissolved	13		0.050		mg/L	1		6010C	Dissolved
Manganese, Dissolved	0.40		0.010		mg/L	1		6010C	Dissolved
Dissolved Organic Carbon	2.5		1.0		mg/L	1		415.1	Dissolved


Client Sample ID: 1Q14 LTM Trip Blank #4

Lab Sample ID: 680-98489-7

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Savannah

MAR 07 2014 

Client Sample Results

Client: Solutia Inc.
Project/Site: W GK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98489-1
SDG: KPS109

Client Sample ID: GWE-5S-0214

Lab Sample ID: 680-98489-1

Date Collected: 02/10/14 12:35

Matrix: Water

Date Received: 02/11/14 10:08

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			02/21/14 16:00	1
Chlorobenzene	1.0	U	1.0		ug/L			02/21/14 16:00	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			02/21/14 16:00	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			02/21/14 16:00	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			02/21/14 16:00	1

Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	95		70 - 130					02/21/14 16:00	1
Dibromofluoromethane	97		70 - 130					02/21/14 16:00	1
Toluene-d8 (Surr)	89		70 - 130					02/21/14 16:00	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	1.1	U	1.1		ug/L			02/14/14 11:08	1
Ethylene	1.0	U	1.0		ug/L			02/14/14 11:08	1
Methane	0.92		0.58		ug/L			02/14/14 11:08	1

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.062		0.050		mg/L		02/12/14 08:27	02/12/14 22:15	1
Manganese	0.18		0.010		mg/L		02/12/14 08:27	02/12/14 22:15	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	20		1.0		mg/L			02/18/14 12:11	1
Nitrate as N	0.28	* J	0.050		mg/L			02/11/14 19:31	1
Sulfate	74		25		mg/L			02/18/14 18:05	5
Total Organic Carbon	2.4		1.0		mg/L			02/13/14 03:07	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	470		5.0		mg/L			02/13/14 21:02	1
Carbon Dioxide, Free	52		5.0		mg/L			02/13/14 21:02	1

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Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98489-1
SDG: KPS109

Client Sample ID: GWE-5S-F(0.2)-0214

Lab Sample ID: 680-98489-2

Date Collected: 02/10/14 12:35

Matrix: Water

Date Received: 02/11/14 10:08


Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	0.050	U	0.050		mg/L		02/12/14 08:27	02/12/14 22:47	1
Manganese, Dissolved	0.18		0.010		mg/L		02/12/14 08:27	02/12/14 22:47	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	2.5	J	1.0		mg/L			02/13/14 09:38	1

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Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98489-1
SDG: KPS109

Client Sample ID: GWE-5M-0214

Lab Sample ID: 680-98489-3

Date Collected: 02/10/14 14:25

Matrix: Water

Date Received: 02/11/14 10:08

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			02/21/14 16:29	1
Chlorobenzene	1.0	U	1.0		ug/L			02/21/14 16:29	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			02/21/14 16:29	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			02/21/14 16:29	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			02/21/14 16:29	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	95		70 - 130					02/21/14 16:29	1
Dibromofluoromethane	98		70 - 130					02/21/14 16:29	1
Toluene-d8 (Surr)	90		70 - 130					02/21/14 16:29	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	1.1	U	1.1		ug/L			02/14/14 11:21	1
Ethylene	1.0	U	1.0		ug/L			02/14/14 11:21	1
Methane	35		0.58		ug/L			02/14/14 11:21	1

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	24		0.050		mg/L		02/12/14 08:27	02/12/14 22:52	1
Manganese	1.3		0.010		mg/L		02/12/14 08:27	02/12/14 22:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	47		1.0		mg/L			02/18/14 12:11	1
Nitrate as N	0.050	U * <i>UJ</i>	0.050		mg/L			02/11/14 19:32	1
Sulfate	130		25		mg/L			02/18/14 17:21	5
Total Organic Carbon	2.2		1.0		mg/L			02/13/14 03:25	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	480		5.0		mg/L			02/13/14 20:45	1
Carbon Dioxide, Free	38		5.0		mg/L			02/13/14 20:45	1

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Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98489-1
SDG: KPS109

Client Sample ID: GWE-5M-F(0.2)-0214

Lab Sample ID: 680-98489-4

Date Collected: 02/10/14 14:25

Matrix: Water

Date Received: 02/11/14 10:08


Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	24		0.050		mg/L		02/12/14 08:27	02/12/14 22:56	1
Manganese, Dissolved	1.3		0.010		mg/L		02/12/14 08:27	02/12/14 22:56	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	2.2		1.0		mg/L			02/13/14 10:18	1

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Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98489-1
SDG: KPS109

Client Sample ID: GWE-5D-0214

Lab Sample ID: 680-98489-5

Date Collected: 02/10/14 15:55

Matrix: Water

Date Received: 02/11/14 10:08

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	2.7		2.0		ug/L			02/20/14 18:33	2
Chlorobenzene	73		2.0		ug/L			02/20/14 18:33	2
1,2-Dichlorobenzene	2.2		2.0		ug/L			02/20/14 18:33	2
1,3-Dichlorobenzene	2.0	U	2.0		ug/L			02/20/14 18:33	2
1,4-Dichlorobenzene	8.6		2.0		ug/L			02/20/14 18:33	2
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	96		70 - 130					02/20/14 18:33	2
Dibromofluoromethane	90		70 - 130					02/20/14 18:33	2
Toluene-d8 (Surr)	94		70 - 130					02/20/14 18:33	2

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	1.1	U	1.1		ug/L			02/14/14 11:34	1
Ethylene	1.0	U	1.0		ug/L			02/14/14 11:34	1
Methane	53		0.58		ug/L			02/14/14 11:34	1


Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	13		0.050		mg/L		02/12/14 08:27	02/12/14 23:01	1
Manganese	0.39		0.010		mg/L		02/12/14 08:27	02/12/14 23:01	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	90		2.0		mg/L			02/18/14 12:31	2
Nitrate as N	0.050	U* US	0.050		mg/L			02/11/14 19:33	1
Sulfate	330		50		mg/L			02/18/14 17:35	10
Total Organic Carbon	2.7		1.0		mg/L			02/13/14 03:44	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	350		5.0		mg/L			02/13/14 20:53	1
Carbon Dioxide, Free	24		5.0		mg/L			02/13/14 20:53	1

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Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98489-1
SDG: KPS109

Client Sample ID: GWE-5D-F(0.2)-0214

Lab Sample ID: 680-98489-6

Date Collected: 02/10/14 15:55

Matrix: Water

Date Received: 02/11/14 10:08


Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	13		0.050		mg/L		02/12/14 08:27	02/12/14 23:06	1
Manganese, Dissolved	0.40		0.010		mg/L		02/12/14 08:27	02/12/14 23:06	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	2.5		1.0		mg/L			02/13/14 11:02	1

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Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98489-1
SDG: KPS109

Client Sample ID: 1Q14 LTM Trip Blank #4

Lab Sample ID: 680-98489-7

Date Collected: 02/10/14 00:00

Matrix: Water

Date Received: 02/11/14 10:08

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MOL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			02/21/14 14:19	1
Chlorobenzene	1.0	U	1.0		ug/L			02/21/14 14:19	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			02/21/14 14:19	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			02/21/14 14:19	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			02/21/14 14:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	96		70 - 130					02/21/14 14:19	1
Dibromofluoromethane	96		70 - 130					02/21/14 14:19	1
Toluene-d8 (Surr)	97		70 - 130					02/21/14 14:19	1

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Surrogate Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98489-1
SDG: KPS109

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water


Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (70-130)	DBFM (70-130)	TOL (70-130)
680-98489-1	GWE-5S-0214	95	97	89
680-98489-3	GWE-5M-0214	95	98	90
680-98489-5	GWE-5D-0214	96	90	94
680-98489-7	1Q14 LTM Trip Blank #4	96	96	97
LCS 680-316403/4	Lab Control Sample	97	91	97
LCS 680-316608/5	Lab Control Sample	112	92	108
LCS 680-316609/4	Lab Control Sample	101	90	94
LCSD 680-316403/5	Lab Control Sample Dup	99	93	101
LCSD 680-316608/9	Lab Control Sample Dup	99	89	101
LCSD 680-316609/5	Lab Control Sample Dup	107	90	101
MB 680-316403/8	Method Blank	94	100	88
MB 680-316608/7	Method Blank	98	97	97
MB 680-316609/8	Method Blank	97	97	89

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

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QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98489-1
SDG: KPS109

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 680-316403/8

Matrix: Water

Analysis Batch: 316403

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U			1.0		ug/L			02/20/14 12:52	1
Chlorobenzene	1.0	U			1.0		ug/L			02/20/14 12:52	1
1,2-Dichlorobenzene	1.0	U			1.0		ug/L			02/20/14 12:52	1
1,3-Dichlorobenzene	1.0	U			1.0		ug/L			02/20/14 12:52	1
1,4-Dichlorobenzene	1.0	U			1.0		ug/L			02/20/14 12:52	1

Surrogate	MB	MB	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	94				70 - 130		02/20/14 12:52	1
Dibromofluoromethane	100				70 - 130		02/20/14 12:52	1
Toluene-d8 (Surr)	88				70 - 130		02/20/14 12:52	1

Lab Sample ID: LCS 680-316403/4

Matrix: Water

Analysis Batch: 316403

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike	LCS	LCS	Result	Qualifier	Unit	D	%Rec	%Rec.	Limits
Benzene	50.0	Added	Result	51.8		ug/L		104		74 - 123
Chlorobenzene	50.0			46.7		ug/L		93		79 - 120
1,2-Dichlorobenzene	50.0			46.3		ug/L		93		77 - 124
1,3-Dichlorobenzene	50.0			47.4		ug/L		95		79 - 123
1,4-Dichlorobenzene	50.0			46.5		ug/L		93		76 - 124

Surrogate	LCS	LCS	%Recovery	Qualifier	Limits
4-Bromofluorobenzene	97				70 - 130
Dibromofluoromethane	91				70 - 130
Toluene-d8 (Surr)	97				70 - 130

Lab Sample ID: LCSD 680-316403/5

Matrix: Water

Analysis Batch: 316403

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike	LCSD	LCSD	Result	Qualifier	Unit	D	%Rec	%Rec.	Limits	RPD	Limit
Benzene	50.0	Added	Result	53.6		ug/L		107		74 - 123	3	30
Chlorobenzene	50.0			47.9		ug/L		96		79 - 120	2	30
1,2-Dichlorobenzene	50.0			46.9		ug/L		94		77 - 124	1	30
1,3-Dichlorobenzene	50.0			48.2		ug/L		96		79 - 123	2	30
1,4-Dichlorobenzene	50.0			47.4		ug/L		95		76 - 124	2	30

Surrogate	LCSD	LCSD	%Recovery	Qualifier	Limits
4-Bromofluorobenzene	99				70 - 130
Dibromofluoromethane	93				70 - 130
Toluene-d8 (Surr)	101				70 - 130

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QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98489-1
SDG: KPS109

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 680-316608/7

Matrix: Water

Analysis Batch: 316608

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U			1.0		ug/L			02/21/14 11:55	1
Chlorobenzene	1.0	U			1.0		ug/L			02/21/14 11:55	1
1,2-Dichlorobenzene	1.0	U			1.0		ug/L			02/21/14 11:55	1
1,3-Dichlorobenzene	1.0	U			1.0		ug/L			02/21/14 11:55	1
1,4-Dichlorobenzene	1.0	U			1.0		ug/L			02/21/14 11:55	1

Surrogate	MB	MB	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98				70 - 130		02/21/14 11:55	1
Dibromofluoromethane	97				70 - 130		02/21/14 11:55	1
Toluene-d8 (Surr)	97				70 - 130		02/21/14 11:55	1

Lab Sample ID: LCS 680-316608/5

Matrix: Water

Analysis Batch: 316608

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike	LCS	LCS	Result	Qualifier	Unit	D	%Rec	%Rec.	Limits
Benzene	50.0	53.3				ug/L		107		74 - 123
Chlorobenzene	50.0	51.2				ug/L		102		79 - 120
1,2-Dichlorobenzene	50.0	55.5				ug/L		111		77 - 124
1,3-Dichlorobenzene	50.0	56.6				ug/L		113		79 - 123
1,4-Dichlorobenzene	50.0	54.1				ug/L		108		76 - 124

Surrogate	LCS	LCS	%Recovery	Qualifier	Limits
4-Bromofluorobenzene	112				70 - 130
Dibromofluoromethane	92				70 - 130
Toluene-d8 (Surr)	108				70 - 130

Lab Sample ID: LCSD 680-316608/9

Matrix: Water

Analysis Batch: 316608

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike	LCSD	LCSD	Result	Qualifier	Unit	D	%Rec	%Rec.	Limits	RPD	Limit
Benzene	50.0	50.9				ug/L		102		74 - 123	5	30
Chlorobenzene	50.0	46.4				ug/L		93		79 - 120	10	30
1,2-Dichlorobenzene	50.0	48.3				ug/L		97		77 - 124	14	30
1,3-Dichlorobenzene	50.0	49.2				ug/L		98		79 - 123	14	30
1,4-Dichlorobenzene	50.0	48.2				ug/L		96		76 - 124	12	30

Surrogate	LCSD	LCSD	%Recovery	Qualifier	Limits
4-Bromofluorobenzene	99				70 - 130
Dibromofluoromethane	89				70 - 130
Toluene-d8 (Surr)	101				70 - 130

TestAmerica Savannah

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QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98489-1
SDG: KPS109

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 680-316609/8

Matrix: Water

Analysis Batch: 316609

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Benzene	1.0	U	1.0		ug/L			02/21/14 12:38	1
Chlorobenzene	1.0	U	1.0		ug/L			02/21/14 12:38	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			02/21/14 12:38	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			02/21/14 12:38	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			02/21/14 12:38	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene	97		70 - 130		02/21/14 12:38	1
Dibromofluoromethane	97		70 - 130		02/21/14 12:38	1
Toluene-d8 (Surr)	89		70 - 130		02/21/14 12:38	1

Lab Sample ID: LCS 680-316609/4

Matrix: Water

Analysis Batch: 316609

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.
	Added	Result	Qualifier				Limits
Benzene	50.0	50.0		ug/L		100	74 - 123
Chlorobenzene	50.0	47.6		ug/L		95	79 - 120
1,2-Dichlorobenzene	50.0	48.2		ug/L		96	77 - 124
1,3-Dichlorobenzene	50.0	50.6		ug/L		101	79 - 123
1,4-Dichlorobenzene	50.0	48.5		ug/L		97	76 - 124

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	101		70 - 130
Dibromofluoromethane	90		70 - 130
Toluene-d8 (Surr)	94		70 - 130

Lab Sample ID: LCSD 680-316609/5

Matrix: Water

Analysis Batch: 316609

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike	LCSD	LCSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Added	Result	Qualifier				Limits		
Benzene	50.0	52.8		ug/L		106	74 - 123	6	30
Chlorobenzene	50.0	48.5		ug/L		97	79 - 120	2	30
1,2-Dichlorobenzene	50.0	50.8		ug/L		102	77 - 124	5	30
1,3-Dichlorobenzene	50.0	52.0		ug/L		104	79 - 123	3	30
1,4-Dichlorobenzene	50.0	50.7		ug/L		101	76 - 124	4	30

Surrogate	LCSD	LCSD	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	107		70 - 130
Dibromofluoromethane	90		70 - 130
Toluene-d8 (Surr)	101		70 - 130

TestAmerica Savannah

QC Sample Results

Client: Solutia Inc.
Project/Site: W GK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98489-1
SDG: KPS109

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 680-315596/8

Matrix: Water

Analysis Batch: 315596

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Ethane	1.1	U	1.1		ug/L			02/14/14 09:32	1
Ethylene	1.0	U	1.0		ug/L			02/14/14 09:32	1
Methane	0.58	U	0.58		ug/L			02/14/14 09:32	1
Methane (TCD)	390	U	390		ug/L			02/14/14 09:32	1

Lab Sample ID: LCS 680-315596/4

Matrix: Water

Analysis Batch: 315596

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits	
		Result	Qualifier					
Ethane	288	294		ug/L		102	75 - 125	
Ethylene	269	287		ug/L		107	75 - 125	
Methane	154	149		ug/L		97	75 - 125	

Lab Sample ID: LCS 680-315596/6

Matrix: Water

Analysis Batch: 315596

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits	
		Result	Qualifier					
Methane (TCD)	1920	2070		ug/L		108	75 - 125	

Lab Sample ID: LCSD 680-315596/5

Matrix: Water

Analysis Batch: 315596

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	%Rec. Limits		RPD	Limit
		Result	Qualifier							
Ethane	288	296		ug/L		103	75 - 125		0	30
Ethylene	269	289		ug/L		107	75 - 125		1	30
Methane	154	149		ug/L		97	75 - 125		0	30

Lab Sample ID: LCSD 680-315596/7

Matrix: Water

Analysis Batch: 315596

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	%Rec. Limits		RPD	Limit
		Result	Qualifier							
Methane (TCD)	1920	2030		ug/L		105	75 - 125		2	30

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 680-315183/1-A

Matrix: Water

Analysis Batch: 315428

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 315183

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Iron	0.050	U	0.050		mg/L		02/12/14 08:27	02/12/14 22:06	1
Iron, Dissolved	0.050	U	0.050		mg/L		02/12/14 08:27	02/12/14 22:06	1
Manganese	0.010	U	0.010		mg/L		02/12/14 08:27	02/12/14 22:06	1
Manganese, Dissolved	0.010	U	0.010		mg/L		02/12/14 08:27	02/12/14 22:06	1

TestAmerica Savannah

QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98489-1
SDG: KPS109

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LCS 680-315183/2-A
Matrix: Water
Analysis Batch: 315428

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 315183

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
							Limits	
Iron	5.00	5.10		mg/L		102	75 - 125	
Iron, Dissolved	5.00	5.10		mg/L		102	75 - 125	
Manganese	0.500	0.531		mg/L		106	75 - 125	
Manganese, Dissolved	0.500	0.531		mg/L		106	75 - 125	

Lab Sample ID: 680-98489-1 MS
Matrix: Water
Analysis Batch: 315428

Client Sample ID: GWE-5S-0214
Prep Type: Total Recoverable
Prep Batch: 315183

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	
									Limits	
Iron	0.062		5.00	5.10		mg/L		101	75 - 125	
Manganese	0.18		0.500	0.706		mg/L		105	75 - 125	

Lab Sample ID: 680-98489-1 MSD
Matrix: Water
Analysis Batch: 315428

Client Sample ID: GWE-5S-0214
Prep Type: Total Recoverable
Prep Batch: 315183

	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Iron	0.062		5.00	5.18		mg/L		102	75 - 125	2	20
Manganese	0.18		0.500	0.711		mg/L		106	75 - 125	1	20

Method: 310.1 - Alkalinity

Lab Sample ID: MB 680-315783/5
Matrix: Water
Analysis Batch: 315783

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	5.0	U	5.0		mg/L			02/13/14 20:09	1
Carbon Dioxide, Free	5.0	U	5.0		mg/L			02/13/14 20:09	1

Lab Sample ID: LCS 680-315783/6
Matrix: Water
Analysis Batch: 315783

Client Sample ID: Lab Control Sample
Prep Type: Total/NA


Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
							Limits	
Alkalinity	250	254		mg/L		102	80 - 120	

Lab Sample ID: LCSD 680-315783/30
Matrix: Water
Analysis Batch: 315783

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike	LCSD	LCSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Added	Result	Qualifier				Limits		
Alkalinity	250	226		mg/L		91	80 - 120	12	30

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QC Sample Results

Client: Solutia Inc.
Project/Site: W GK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98489-1
SDG: KPS109

Method: 325.2 - Chloride

Lab Sample ID: MB 680-316242/15

Matrix: Water

Analysis Batch: 316242

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Chloride	1.0	U	1.0		mg/L			02/18/14 12:21	1

Lab Sample ID: LCS 680-316242/1

Matrix: Water

Analysis Batch: 316242

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.
	Added	Result	Qualifier				Limits
Chloride	25.0	25.6		mg/L		103	85 - 115

Lab Sample ID: 680-98489-1 MS

Matrix: Water

Analysis Batch: 316242

Client Sample ID: GWE-5S-0214

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.
	Result	Qualifier	Added	Result	Qualifier				Limits
Chloride	20		25.0	41.9		mg/L		89	85 - 115

Lab Sample ID: 680-98489-1 MSD

Matrix: Water

Analysis Batch: 316242

Client Sample ID: GWE-5S-0214

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits	Limit
Chloride	20		25.0	42.1		mg/L		90	85 - 115	1 30

Lab Sample ID: 680-98489-3 DU

Matrix: Water

Analysis Batch: 316242

Client Sample ID: GWE-5M-0214

Prep Type: Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Chloride	47		46.9		mg/L		0.4	30

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 680-315170/13

Matrix: Water

Analysis Batch: 315170

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Nitrate as N	0.050	U ^	0.050		mg/L			02/11/14 19:08	1

Lab Sample ID: LCS 680-315170/14

Matrix: Water


Analysis Batch: 315170

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.
	Added	Result	Qualifier				Limits
Nitrate as N	0.500	0.555	^ *	mg/L		111	90 - 110
Nitrate Nitrite as N	1.00	1.07		mg/L		107	90 - 110
Nitrite as N	0.500	0.517		mg/L		103	90 - 110

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QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98489-1
SDG: KPS109

Method: 375.4 - Sulfate

Lab Sample ID: MB 680-316246/23
Matrix: Water
Analysis Batch: 316246

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	5.0	U	5.0		mg/L			02/18/14 17:15	1

Lab Sample ID: LCS 680-316246/6
Matrix: Water
Analysis Batch: 316246

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	19.9		mg/L		100	75 - 125

Lab Sample ID: 680-98489-1 MS
Matrix: Water
Analysis Batch: 316246

Client Sample ID: GWE-5S-0214
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	74		20.0	94.9		mg/L		104	75 - 125

Lab Sample ID: 680-98489-1 MSD
Matrix: Water
Analysis Batch: 316246

Client Sample ID: GWE-5S-0214
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	74		20.0	93.5		mg/L		97	75 - 125	1	30

Lab Sample ID: 680-98489-3 DU
Matrix: Water
Analysis Batch: 316246

Client Sample ID: GWE-5M-0214
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfate	130		132		mg/L		0.5	30

Method: 415.1 - DOC

Lab Sample ID: MB 680-315513/2-A
Matrix: Water
Analysis Batch: 315508

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.0	U	1.0		mg/L			02/13/14 09:24	1

Lab Sample ID: LCS 680-315513/1-A
Matrix: Water
Analysis Batch: 315508

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	20.0	20.6		mg/L		103	80 - 120

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QC Sample Results

Client: Solutia Inc.
Project/Site: W GK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98489-1
SDG: KPS109

Method: 415.1 - DOC (Continued)

Lab Sample ID: 680-98489-2 MS
Matrix: Water
Analysis Batch: 315508

Client Sample ID: GWE-5S-F(0.2)-0214
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	2.5		20.0	22.6		mg/L		100	80 - 120

Lab Sample ID: 680-98489-2 MSD
Matrix: Water
Analysis Batch: 315508

Client Sample ID: GWE-5S-F(0.2)-0214
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	2.5		20.0	22.4		mg/L		100	80 - 120	1	20

Lab Sample ID: 680-98489-6 DU
Matrix: Water
Analysis Batch: 315508

Client Sample ID: GWE-5D-F(0.2)-0214
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Dissolved Organic Carbon	2.5		2.60		mg/L		4	30

Method: 415.1 - TOC

Lab Sample ID: MB 680-315506/2
Matrix: Water
Analysis Batch: 315506

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1.0	U	1.0		mg/L			02/12/14 22:43	1

Lab Sample ID: LCS 680-315506/5
Matrix: Water
Analysis Batch: 315506

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	20.0	21.8		mg/L		109	80 - 120

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QC Association Summary

Client: Solutia Inc.
Project/Site: W GK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98489-1
SDG: KPS109

GC/MS VOA

Analysis Batch: 316403

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98489-5	GWE-5D-0214	Total/NA	Water	8260B	
LCS 680-316403/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-316403/5	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-316403/8	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 316608

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98489-7	1Q14 LTM Trip Blank #4	Total/NA	Water	8260B	
LCS 680-316608/5	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-316608/9	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-316608/7	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 316609

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98489-1	GWE-5S-0214	Total/NA	Water	8260B	
680-98489-3	GWE-5M-0214	Total/NA	Water	8260B	
LCS 680-316609/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-316609/5	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-316609/8	Method Blank	Total/NA	Water	8260B	

GC VOA

Analysis Batch: 315596

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98489-1	GWE-5S-0214	Total/NA	Water	RSK-175	
680-98489-3	GWE-5M-0214	Total/NA	Water	RSK-175	
680-98489-5	GWE-5D-0214	Total/NA	Water	RSK-175	
LCS 680-315596/4	Lab Control Sample	Total/NA	Water	RSK-175	
LCS 680-315596/6	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 680-315596/5	Lab Control Sample Dup	Total/NA	Water	RSK-175	
LCSD 680-315596/7	Lab Control Sample Dup	Total/NA	Water	RSK-175	
MB 680-315596/8	Method Blank	Total/NA	Water	RSK-175	

Metals

Prep Batch: 315183

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98489-1	GWE-5S-0214	Total Recoverable	Water	3005A	
680-98489-1 MS	GWE-5S-0214	Total Recoverable	Water	3005A	
680-98489-1 MSD	GWE-5S-0214	Total Recoverable	Water	3005A	
680-98489-2	GWE-5S-F(0.2)-0214	Dissolved	Water	3005A	
680-98489-3	GWE-5M-0214	Total Recoverable	Water	3005A	
680-98489-4	GWE-5M-F(0.2)-0214	Dissolved	Water	3005A	
680-98489-5	GWE-5D-0214	Total Recoverable	Water	3005A	
680-98489-6	GWE-5D-F(0.2)-0214	Dissolved	Water	3005A	
LCS 680-315183/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 680-315183/1-A	Method Blank	Total Recoverable	Water	3005A	

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QC Association Summary

Client: Solutia Inc.
Project/Site: W GK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98489-1
SDG: KPS109

Metals (Continued)

Analysis Batch: 315428

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98489-1	GWE-5S-0214	Total Recoverable	Water	6010C	315183
680-98489-1 MS	GWE-5S-0214	Total Recoverable	Water	6010C	315183
680-98489-1 MSD	GWE-5S-0214	Total Recoverable	Water	6010C	315183
680-98489-2	GWE-5S-F(0.2)-0214	Dissolved	Water	6010C	315183
680-98489-3	GWE-5M-0214	Total Recoverable	Water	6010C	315183
680-98489-4	GWE-5M-F(0.2)-0214	Dissolved	Water	6010C	315183
680-98489-5	GWE-5D-0214	Total Recoverable	Water	6010C	315183
680-98489-6	GWE-5D-F(0.2)-0214	Dissolved	Water	6010C	315183
LCS 680-315183/2-A	Lab Control Sample	Total Recoverable	Water	6010C	315183
MB 680-315183/1-A	Method Blank	Total Recoverable	Water	6010C	315183

General Chemistry

Analysis Batch: 315170

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98489-1	GWE-5S-0214	Total/NA	Water	353.2	
680-98489-3	GWE-5M-0214	Total/NA	Water	353.2	
680-98489-5	GWE-5D-0214	Total/NA	Water	353.2	
LCS 680-315170/14	Lab Control Sample	Total/NA	Water	353.2	
MB 680-315170/13	Method Blank	Total/NA	Water	353.2	

Analysis Batch: 315506

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98489-1	GWE-5S-0214	Total/NA	Water	415.1	
680-98489-3	GWE-5M-0214	Total/NA	Water	415.1	
680-98489-5	GWE-5D-0214	Total/NA	Water	415.1	
LCS 680-315506/5	Lab Control Sample	Total/NA	Water	415.1	
MB 680-315506/2	Method Blank	Total/NA	Water	415.1	

Analysis Batch: 315508

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98489-2	GWE-5S-F(0.2)-0214	Dissolved	Water	415.1	
680-98489-2 MS	GWE-5S-F(0.2)-0214	Dissolved	Water	415.1	
680-98489-2 MSD	GWE-5S-F(0.2)-0214	Dissolved	Water	415.1	
680-98489-4	GWE-5M-F(0.2)-0214	Dissolved	Water	415.1	
680-98489-6	GWE-5D-F(0.2)-0214	Dissolved	Water	415.1	
680-98489-6 DU	GWE-5D-F(0.2)-0214	Dissolved	Water	415.1	
LCS 680-315513/1-A	Lab Control Sample	Dissolved	Water	415.1	315513
MB 680-315513/2-A	Method Blank	Dissolved	Water	415.1	315513


Filtration Batch: 315513

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 680-315513/1-A	Lab Control Sample	Dissolved	Water	FILTRATION	
MB 680-315513/2-A	Method Blank	Dissolved	Water	FILTRATION	

Analysis Batch: 315783

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98489-1	GWE-5S-0214	Total/NA	Water	310.1	
680-98489-3	GWE-5M-0214	Total/NA	Water	310.1	
680-98489-5	GWE-5D-0214	Total/NA	Water	310.1	

TestAmerica Savannah

MAR 07 2014 

QC Association Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98489-1
SDG: KPS109

General Chemistry (Continued)

Analysis Batch: 315783 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 680-315783/6	Lab Control Sample	Total/NA	Water	310.1	
LCSD 680-315783/30	Lab Control Sample Dup	Total/NA	Water	310.1	
MB 680-315783/5	Method Blank	Total/NA	Water	310.1	

Analysis Batch: 316242

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98489-1	GWE-5S-0214	Total/NA	Water	325.2	
680-98489-1 MS	GWE-5S-0214	Total/NA	Water	325.2	
680-98489-1 MSD	GWE-5S-0214	Total/NA	Water	325.2	
680-98489-3	GWE-5M-0214	Total/NA	Water	325.2	
680-98489-3 DU	GWE-5M-0214	Total/NA	Water	325.2	
680-98489-5	GWE-5D-0214	Total/NA	Water	325.2	
LCS 680-316242/1	Lab Control Sample	Total/NA	Water	325.2	
MB 680-316242/15	Method Blank	Total/NA	Water	325.2	

Analysis Batch: 316246

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98489-1	GWE-5S-0214	Total/NA	Water	375.4	
680-98489-1 MS	GWE-5S-0214	Total/NA	Water	375.4	
680-98489-1 MSD	GWE-5S-0214	Total/NA	Water	375.4	
680-98489-3	GWE-5M-0214	Total/NA	Water	375.4	
680-98489-3 DU	GWE-5M-0214	Total/NA	Water	375.4	
680-98489-5	GWE-5D-0214	Total/NA	Water	375.4	
LCS 680-316246/6	Lab Control Sample	Total/NA	Water	375.4	
MB 680-316246/23	Method Blank	Total/NA	Water	375.4	

TestAmerica Savannah

MAR 07 2014

Lab Chronicle

Client: Solutia Inc.
Project/Site: WGG Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98489-1
SDG: KPS109

Client Sample ID: GWE-5S-0214

Lab Sample ID: 680-98489-1

Date Collected: 02/10/14 12:35

Matrix: Water

Date Received: 02/11/14 10:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	316609	02/21/14 16:00	MMT	TAL SAV
Total/NA	Analysis	RSK-175		1	315596	02/14/14 11:08	TAR	TAL SAV
Total Recoverable	Prep	3005A			315183	02/12/14 08:27	BJB	TAL SAV
Total Recoverable	Analysis	6010C		1	315428	02/12/14 22:15	BCB	TAL SAV
Total/NA	Analysis	353.2		1	315170	02/11/14 19:31	GRX	TAL SAV
Total/NA	Analysis	415.1		1	315506	02/13/14 03:07	CMP	TAL SAV
Total/NA	Analysis	310.1		1	315783	02/13/14 21:02	LBH	TAL SAV
Total/NA	Analysis	325.2		1	316242	02/18/14 12:11	JME	TAL SAV
Total/NA	Analysis	375.4		5	316246	02/18/14 18:05	JME	TAL SAV

Client Sample ID: GWE-5S-F(0.2)-0214

Lab Sample ID: 680-98489-2

Date Collected: 02/10/14 12:35

Matrix: Water

Date Received: 02/11/14 10:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			315183	02/12/14 08:27	BJB	TAL SAV
Dissolved	Analysis	6010C		1	315428	02/12/14 22:47	BCB	TAL SAV
Dissolved	Analysis	415.1		1	315508	02/13/14 09:38	CMP	TAL SAV

Client Sample ID: GWE-5M-0214

Lab Sample ID: 680-98489-3

Date Collected: 02/10/14 14:25

Matrix: Water

Date Received: 02/11/14 10:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	316609	02/21/14 16:29	MMT	TAL SAV
Total/NA	Analysis	RSK-175		1	315596	02/14/14 11:21	TAR	TAL SAV
Total Recoverable	Prep	3005A			315183	02/12/14 08:27	BJB	TAL SAV
Total Recoverable	Analysis	6010C		1	315428	02/12/14 22:52	BCB	TAL SAV
Total/NA	Analysis	353.2		1	315170	02/11/14 19:32	GRX	TAL SAV
Total/NA	Analysis	415.1		1	315506	02/13/14 03:25	CMP	TAL SAV
Total/NA	Analysis	310.1		1	315783	02/13/14 20:45	LBH	TAL SAV
Total/NA	Analysis	325.2		1	316242	02/18/14 12:11	JME	TAL SAV
Total/NA	Analysis	375.4		5	316246	02/18/14 17:21	JME	TAL SAV

Client Sample ID: GWE-5M-F(0.2)-0214

Lab Sample ID: 680-98489-4

Date Collected: 02/10/14 14:25

Matrix: Water

Date Received: 02/11/14 10:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			315183	02/12/14 08:27	BJB	TAL SAV
Dissolved	Analysis	6010C		1	315428	02/12/14 22:56	BCB	TAL SAV

TestAmerica Savannah

MAR 07 2014

Lab Chronicle

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98489-1
SDG: KPS109

Client Sample ID: GWE-5M-F(0.2)-0214

Lab Sample ID: 680-98489-4

Date Collected: 02/10/14 14:25

Matrix: Water

Date Received: 02/11/14 10:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	415.1		1	315508	02/13/14 10:18	CMP	TAL SAV

Client Sample ID: GWE-5D-0214

Lab Sample ID: 680-98489-5

Date Collected: 02/10/14 15:55

Matrix: Water

Date Received: 02/11/14 10:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2	316403	02/20/14 18:33	MMT	TAL SAV
Total/NA	Analysis	RSK-175		1	315596	02/14/14 11:34	TAR	TAL SAV
Total Recoverable	Prep	3005A			315183	02/12/14 08:27	BJB	TAL SAV
Total Recoverable	Analysis	6010C		1	315428	02/12/14 23:01	BCB	TAL SAV
Total/NA	Analysis	353.2		1	315170	02/11/14 19:33	GRX	TAL SAV
Total/NA	Analysis	415.1		1	315506	02/13/14 03:44	CMP	TAL SAV
Total/NA	Analysis	310.1		1	315783	02/13/14 20:53	LBH	TAL SAV
Total/NA	Analysis	325.2		2	316242	02/18/14 12:31	JME	TAL SAV
Total/NA	Analysis	375.4		10	316246	02/18/14 17:35	JME	TAL SAV

Client Sample ID: GWE-5D-F(0.2)-0214

Lab Sample ID: 680-98489-6

Date Collected: 02/10/14 15:55

Matrix: Water

Date Received: 02/11/14 10:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			315183	02/12/14 08:27	BJB	TAL SAV
Dissolved	Analysis	6010C		1	315428	02/12/14 23:06	BCB	TAL SAV
Dissolved	Analysis	415.1		1	315508	02/13/14 11:02	CMP	TAL SAV

Client Sample ID: 1Q14 LTM Trip Blank #4

Lab Sample ID: 680-98489-7

Date Collected: 02/10/14 00:00

Matrix: Water

Date Received: 02/11/14 10:08

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	316608	02/21/14 14:19	MMT	TAL SAV

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

TestAmerica Savannah

MAR 07 2014

Savannah
5102 LaRoche Avenue

Savannah, GA 31404
phone 912.354.7858 fax 912.352.0165

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact		Project Manager: Bob Billman		Site Contact: Michael Corbett		Date: 2/10/14		COC No:										
URS Corporation		Tel/Fax: (314) 743-4108		Lab Contact: Michele Kersey		Carrier: FedEx		1 of 1 COCs										
1001 Highlands Plaza Drive West, Suite 300		Analysis Turnaround Time																
St. Louis, MO 63110		Calendar (C) or Work Days (W) C																
(314) 429-0100 Phone		TAT if different from Below Standard																
(314) 429-0462 FAX		<input type="checkbox"/> 2 weeks																
Project Name: 1Q14 LTM GW Sampling		<input type="checkbox"/> 1 week																
Site: Solutia WG Krummrich Facility		<input type="checkbox"/> 2 days																
P O #		<input type="checkbox"/> 1 day																
Sample Identification		Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filled Sample	VOCs by 8160D	Total Pb/Mn by 6010C	Alk/CO2 by 310.1	Chloride by 325.2/Sulfate by 375.4	Dissolved Gases by HSK 175	Nitrate by 353.2	TOC by 415.1	Dissolved Fe/Mn by 6010C	DOC by 415.1	SDG No.	Sample Specific Notes:
GWE-SS-0214 ✓	2/10/14	1235	G	Water	14			3	1	1	1	3	2	3				
GWE-SS-F(0.2)-0214 ✓		1235	G	Water	2	X									1	1		
GWE-SM-0214 ✓		1425	G	Water	14			3	1	1	1	3	2	3				
GWE-SM-F(0.2)-0214 ✓		1425	G	Water	2	X									1	1		
GWE-SD-0214 ✓		1555	G	Water	14			3	1	1	1	3	2	3				
GWE-SD-F(0.2)-0214 ✓		1555	G	Water	2	X									1	1		
GWE-SD-0214			G	Water	14			3	1	1	1	3	2	3				
GWE-SD-F(0.2)-0214			G	Water	2	X									1	1		
1Q14 LTM Trip Blank # 4 ✓	2/10/14			Water	2			2										
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other								2	4	1	1	2	3,1	3	4	2		
Possible Hazard Identification							Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)											
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Ison B <input type="checkbox"/> Poison							<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months											
Special Instructions/QC Requirements & Comments:																		
2.2°C																		
Relinquished by: [Signature]		Company: URS		Date/Time: 2/10/14 1630		Received by: [Signature]		Company: TRS		Date/Time: 2-11-14 1008								
Relinquished by:		Company:		Date/Time:		Received by:		Company:		Date/Time:								
Relinquished by:		Company:		Date/Time:		Received by:		Company:		Date/Time:								



680-98489 Chain of Custody

Login Sample Receipt Checklist

Client: Solutia Inc.

Job Number: 680-98489-1

SDG Number: KPS109

Login Number: 98489

List Source: TestAmerica Savannah

List Number: 1

Creator: Banda, Christy S

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Certification Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98489-1
SDG: KPS109

Laboratory: TestAmerica Savannah

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
	AFCEE		SAVLAB	
A2LA	DoD ELAP		399.01	02-28-15
A2LA	ISO/IEC 17025		399.01	02-28-15
Alabama	State Program	4	41450	06-30-14
Arkansas DEQ	State Program	6	88-0692	01-31-15
California	NELAP	9	3217CA	07-31-14
Colorado	State Program	8	N/A	12-31-14
Connecticut	State Program	1	PH-0161	03-31-15
Florida	NELAP	4	E87052	06-30-14
GA Dept. of Agriculture	State Program	4	N/A	06-30-14
Georgia	State Program	4	N/A	06-30-14
Georgia	State Program	4	803	06-30-14
Guam	State Program	9	09-005r	04-17-14 *
Hawaii	State Program	9	N/A	06-30-14
Illinois	NELAP	5	200022	11-30-14
Indiana	State Program	5	N/A	06-30-14
Iowa	State Program	7	353	07-01-15
Kentucky (DW)	State Program	4	90084	12-31-14
Kentucky (UST)	State Program	4	18	06-30-14
Louisiana	NELAP	6	LA100015	12-31-14
Maine	State Program	1	GA00006	08-16-14
Maryland	State Program	3	250	12-31-14
Massachusetts	State Program	1	M-GA006	06-30-14
Michigan	State Program	5	9925	06-30-14
Mississippi	State Program	4	N/A	06-30-14
Montana	State Program	8	CERT0081	01-01-15
Nebraska	State Program	7	TestAmerica-Savannah	06-30-14
New Jersey	NELAP	2	GA769	06-30-14
New Mexico	State Program	6	N/A	06-30-14
New York	NELAP	2	10842	03-31-14 *
North Carolina DENR	State Program	4	269	12-31-14
North Carolina DHHS	State Program	4	13701	07-31-14
Oklahoma	State Program	6	9984	08-31-14
Pennsylvania	NELAP	3	68-00474	06-30-14
Puerto Rico	State Program	2	GA00006	12-31-14
South Carolina	State Program	4	98001	06-30-14
Tennessee	State Program	4	TN02961	06-30-14
Texas	NELAP	6	T104704185-08-TX	11-30-14
USDA	Federal		SAV 3-04	04-07-14 *
Virginia	NELAP	3	460161	06-14-14
Washington	State Program	10	C1794	06-10-14
West Virginia DEP	State Program	3	94	06-30-14
West Virginia DHHR	State Program	3	9950C	12-31-14
Wisconsin	State Program	5	999819810	08-31-14
Wyoming	State Program	8	8TMS-L	06-30-14

* Expired certification is currently pending renewal and is considered valid.

TestAmerica Savannah

MAR 07 2014

Solutia Krummrich Data Review WGK LTM 1Q14

Laboratory SDG: KPS110

Data Reviewer: Melissa Mansker

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 3/10/2014

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2008. USEPA National Functional Guidelines for Superfund Inorganic Data Review 2010

Work Plan: Revised Long-Term Monitoring Program (LTMP) Work Plan (Solutia 2009)

Sample Identification	
ESL-MW-A-0214	ESL-MW-A-F(0.2)-0214
ESL-MW-C1-0214	ESL-MW-C1-F(0.2)-0214
1Q14 LTM Trip Blank #5	

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated that the LCS recovery was outside evaluation criteria for nitrate. Samples were diluted due to high levels of chloride and sulfate. Instrument calibration was outside evaluation criteria for nitrate. These issues are addressed further in the appropriate sections below.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

No

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD/ RPD Criteria
LCS 680-315374/14	General chemistry	Nitrate	111	NA	90-110

Analytical data that required qualification based on LCS data are included in the table below. Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification.

Sample ID	Parameter	Analyte	Qualification
ESL-MW-A-0214	General chemistry	Nitrate	J

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples collected as part of this SDG?

No

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

10.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

11.0 Additional Qualifications

Were additional qualifications applied?

Additionally, the following samples are qualified, as summarized below, due to instrument calibration outside evaluation criteria for nitrate. Nitrate in sample ESL-MW-A-0214 was previously qualified in Section 5.0 of this data review due to LCS recovery data; no further qualification of sample ESL-MW-A-0214 was required.

Sample ID	Parameter	Analyte	Qualification
ESL-MW-C1-0214	General chemistry	Nitrate	UJ

SDG KPS110

Results of Samples from Monitoring Well:

ESL-MW-A
ESL-MW-C1

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

TestAmerica Job ID: 680-98549-1
TestAmerica Sample Delivery Group: KPS110
Client Project/Site: WGK Long Term Monitoring - 1Q14

For:
Solutia Inc.
575 Maryville Centre Dr.
Saint Louis, Missouri 63141

Attn: Mr. Jerry Rinaldi

Michele R. Kersey

Authorized for release by:
2/26/2014 2:56:33 PM

Michele Kersey, Project Manager I
(912)354-7858
michele.kersey@testamericainc.com

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Reviewed on
MAR 10 2014
MM

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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MAR 10 2014

My

Case Narrative

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98549-1
SDG: KPS110

Job ID: 680-98549-1

Laboratory: TestAmerica Savannah

Narrative

CASE NARRATIVE

Client: Solutia Inc.

Project: WGK Long Term Monitoring - 1Q14

Report Number: 680-98549-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT

The samples were received on 2/12/2014 11:11 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.2° C.

VOLATILE ORGANIC COMPOUNDS (GC-MS)

Samples ESL-MW-A-0214 (680-98549-1), ESL-MW-C1-0214 (680-98549-3) and 1Q14 LTM Trip Blank #5 (680-98549-5) were analyzed for Volatile Organic Compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 02/20/2014 and 02/21/2014.

No difficulties were encountered during the volatiles analysis.

All quality control parameters were within the acceptance limits.

DISSOLVED GASES

Samples ESL-MW-A-0214 (680-98549-1) and ESL-MW-C1-0214 (680-98549-3) were analyzed for dissolved gases in accordance with RSK-175. The samples were analyzed on 02/24/2014.

No difficulties were encountered during the dissolved gases analysis.

All quality control parameters were within the acceptance limits.

METALS (ICP)

Samples ESL-MW-A-F(0.2)-0214 (680-98549-2) and ESL-MW-C1-F(0.2)-0214 (680-98549-4) were analyzed for Metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 02/13/2014 and analyzed on 02/14/2014.

No difficulties were encountered during the metals analysis.

All quality control parameters were within the acceptance limits.

METALS (ICP)

Samples ESL-MW-A-0214 (680-98549-1) and ESL-MW-C1-0214 (680-98549-3) were analyzed for Metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 02/13/2014 and analyzed on 02/14/2014.

No difficulties were encountered during the metals analysis.

All quality control parameters were within the acceptance limits.

MAR 10 2014



Case Narrative

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98549-1
SDG: KPS110

Job ID: 680-98549-1 (Continued)

Laboratory: TestAmerica Savannah (Continued)

ALKALINITY

Samples ESL-MW-A-0214 (680-98549-1) and ESL-MW-C1-0214 (680-98549-3) were analyzed for alkalinity in accordance with EPA Method 310.1. The samples were analyzed on 02/13/2014 and 02/19/2014.

No difficulties were encountered during the alkalinity analysis.

All quality control parameters were within the acceptance limits.

CHLORIDE

Samples ESL-MW-A-0214 (680-98549-1) and ESL-MW-C1-0214 (680-98549-3) were analyzed for Chloride in accordance with EPA Method 325.2. The samples were analyzed on 02/18/2014.

Samples ESL-MW-A-0214 (680-98549-1)[2X] and ESL-MW-C1-0214 (680-98549-3)[2X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No difficulties were encountered during the chloride analysis.

All quality control parameters were within the acceptance limits.

NITRATE-NITRITE AS NITROGEN

Samples ESL-MW-A-0214 (680-98549-1) and ESL-MW-C1-0214 (680-98549-3) were analyzed for nitrate-nitrite as nitrogen in accordance with EPA Method 353.2. The samples were analyzed on 02/12/2014.

The Nitrate + Nitrite result is obtained from a calculation incorporating the Nitrate and Nitrite results. Re-analysis is not performed if QC for the calculated analyte does not meet acceptance criteria, provided the QC results for the component analytes are acceptable. Data have been qualified to denote this situation.

Refer to the QC report for details.

No other difficulties were encountered during the nitrate-nitrite analysis.

All other quality control parameters were within the acceptance limits.

SULFATE

Samples ESL-MW-A-0214 (680-98549-1) and ESL-MW-C1-0214 (680-98549-3) were analyzed for sulfate in accordance with EPA Method 375.4. The samples were analyzed on 02/18/2014.

Samples ESL-MW-A-0214 (680-98549-1)[20X] and ESL-MW-C1-0214 (680-98549-3)[50X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No difficulties were encountered during the sulfate analysis.

All quality control parameters were within the acceptance limits.

TOTAL ORGANIC CARBON

Samples ESL-MW-A-0214 (680-98549-1) and ESL-MW-C1-0214 (680-98549-3) were analyzed for total organic carbon in accordance with EPA Method 415.1. The samples were analyzed on 02/13/2014.

No difficulties were encountered during the TOC analysis.

All quality control parameters were within the acceptance limits.

DISSOLVED ORGANIC CARBON (DOC)

Samples ESL-MW-A-F(0.2)-0214 (680-98549-2) and ESL-MW-C1-F(0.2)-0214 (680-98549-4) were analyzed for Dissolved Organic Carbon (DOC) in accordance with EPA Method 415.1. The samples were analyzed on 02/13/2014.

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Case Narrative

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98549-1
SDG: KPS110

Job ID: 680-98549-1 (Continued)

Laboratory: TestAmerica Savannah (Continued)

No difficulties were encountered during the DOC analysis.

All quality control parameters were within the acceptance limits.



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Sample Summary

Client: Solutia Inc.

Project/Site: W GK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98549-1

SDG: KPS110

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-98549-1	ESL-MW-A-0214 ✓	Water	02/11/14 15:00	02/12/14 11:11
680-98549-2	ESL-MW-A-F(0.2)-0214 ✓	Water	02/11/14 15:00	02/12/14 11:11
680-98549-3	ESL-MW-C1-0214 ✓	Water	02/11/14 12:55	02/12/14 11:11
680-98549-4	ESL-MW-C1-F(0.2)-0214 ✓	Water	02/11/14 12:55	02/12/14 11:11
680-98549-5	1Q14 LTM Trip Blank #5 ✓	Water	02/11/14 00:00	02/12/14 11:11

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TestAmerica Savannah

Method Summary

Client: Solutia Inc.
Project/Site: W GK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98549-1
SDG: KPS110

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL SAV
RSK-175	Dissolved Gases (GC)	RSK	TAL SAV
6010C	Metals (ICP)	SW846	TAL SAV
310.1	Alkalinity	MCAWW	TAL SAV
325.2	Chloride	MCAWW	TAL SAV
353.2	Nitrogen, Nitrate-Nitrite	MCAWW	TAL SAV
375.4	Sulfate	MCAWW	TAL SAV
415.1	TOC	MCAWW	TAL SAV
415.1	DOC	MCAWW	TAL SAV

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

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TestAmerica Savannah

Definitions/Glossary

Client: Solutia Inc.
Project/Site: W GK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98549-1
SDG: KPS110

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

GC VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

General Chemistry

Qualifier	Qualifier Description
*	LCS or LCSD exceeds the control limits
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

MAR 10 2014

TestAmerica Savannah

Detection Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98549-1
SDG: KPS110

Client Sample ID: ESL-MW-A-0214

Lab Sample ID: 680-98549-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1.6		1.0		ug/L	1		8260B	Total/NA
Chlorobenzene	3.5		1.0		ug/L	1		8260B	Total/NA
1,2-Dichlorobenzene	2.2		1.0		ug/L	1		8260B	Total/NA
1,4-Dichlorobenzene	3.0		1.0		ug/L	1		8260B	Total/NA
Methane	2.1		0.58		ug/L	1		RSK-175	Total/NA
Iron	11		0.050		mg/L	1		6010C	Total Recoverable
Manganese	0.34		0.010		mg/L	1		6010C	Total Recoverable
Chloride	68		2.0		mg/L	2		325.2	Total/NA
Nitrate as N	0.52		0.050		mg/L	1		353.2	Total/NA
Sulfate	480		100		mg/L	20		375.4	Total/NA
Total Organic Carbon	4.0		1.0		mg/L	1		415.1	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Alkalinity	270		5.0		mg/L	1		310.1	Total/NA
Carbon Dioxide, Free	15		5.0		mg/L	1		310.1	Total/NA

Client Sample ID: ESL-MW-A-F(0.2)-0214

Lab Sample ID: 680-98549-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron, Dissolved	11		0.050		mg/L	1		6010C	Dissolved
Manganese, Dissolved	0.35		0.010		mg/L	1		6010C	Dissolved
Dissolved Organic Carbon	3.4		1.0		mg/L	1		415.1	Dissolved

Client Sample ID: ESL-MW-C1-0214

Lab Sample ID: 680-98549-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1.3		1.0		ug/L	1		8260B	Total/NA
Chlorobenzene	2.0		1.0		ug/L	1		8260B	Total/NA
1,2-Dichlorobenzene	1.5		1.0		ug/L	1		8260B	Total/NA
1,4-Dichlorobenzene	1.9		1.0		ug/L	1		8260B	Total/NA
Methane	2.3		0.58		ug/L	1		RSK-175	Total/NA
Iron	12		0.050		mg/L	1		6010C	Total Recoverable
Manganese	0.42		0.010		mg/L	1		6010C	Total Recoverable
Chloride	99		2.0		mg/L	2		325.2	Total/NA
Sulfate	760		250		mg/L	50		375.4	Total/NA
Total Organic Carbon	3.6		1.0		mg/L	1		415.1	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Alkalinity	330		5.0		mg/L	1		310.1	Total/NA
Carbon Dioxide, Free	18		5.0		mg/L	1		310.1	Total/NA

Client Sample ID: ESL-MW-C1-F(0.2)-0214

Lab Sample ID: 680-98549-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron, Dissolved	12		0.050		mg/L	1		6010C	Dissolved
Manganese, Dissolved	0.42		0.010		mg/L	1		6010C	Dissolved
Dissolved Organic Carbon	3.6		1.0		mg/L	1		415.1	Dissolved

This Detection Summary does not include radiochemical test results.

MAR 10 2014
TestAmerica Savannah

Detection Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98549-1
SDG: KPS110

Client Sample ID: 1Q14 LTM Trip Blank #5

Lab Sample ID: 680-98549-5

☐ No Detections.



This Detection Summary does not include radiochemical test results.

TestAmerica Savannah

MAR 10 2014
[Signature]

Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98549-1
SDG: KPS110

Client Sample ID: ESL-MW-A-0214

Lab Sample ID: 680-98549-1

Date Collected: 02/11/14 15:00

Matrix: Water

Date Received: 02/12/14 11:11

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.6		1.0		ug/L			02/20/14 19:01	1
Chlorobenzene	3.5		1.0		ug/L			02/20/14 19:01	1
1,2-Dichlorobenzene	2.2		1.0		ug/L			02/20/14 19:01	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			02/20/14 19:01	1
1,4-Dichlorobenzene	3.0		1.0		ug/L			02/20/14 19:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	93		70 - 130		02/20/14 19:01	1
Dibromofluoromethane	94		70 - 130		02/20/14 19:01	1
Toluene-d8 (Surr)	89		70 - 130		02/20/14 19:01	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	1.1	U	1.1		ug/L			02/24/14 13:04	1
Ethylene	1.0	U	1.0		ug/L			02/24/14 13:04	1
Methane	2.1		0.58		ug/L			02/24/14 13:04	1

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	11		0.050		mg/L		02/13/14 09:21	02/14/14 D4:04	1
Manganese	0.34		0.010		mg/L		02/13/14 09:21	02/14/14 D4:04	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	68		2.0		mg/L			02/18/14 12:34	2
Nitrate as N	0.52	* ^ J	0.050		mg/L			02/12/14 22:17	1
Sulfate	480		100		mg/L			02/18/14 18:07	20
Total Organic Carbon	4.0		1.0		mg/L			02/13/14 08:01	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	270		5.0		mg/L			02/13/14 21:47	1
Carbon Dioxide, Free	15		5.0		mg/L			02/13/14 21:47	1

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Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98549-1
SDG: KPS110

Client Sample ID: ESL-MW-A-F(0.2)-0214

Lab Sample ID: 680-98549-2

Date Collected: 02/11/14 15:00

Matrix: Water

Date Received: 02/12/14 11:11

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	11		0.050		mg/L		02/13/14 09:21	02/14/14 04:09	1
Manganese, Dissolved	0.35		0.010		mg/L		02/13/14 09:21	02/14/14 04:09	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	3.4		1.0		mg/L			02/13/14 12:36	1

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Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98549-1
SDG: KPS110

Client Sample ID: ESL-MW-C1-0214

Lab Sample ID: 680-98549-3

Date Collected: 02/11/14 12:55

Matrix: Water

Date Received: 02/12/14 11:11

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.3		1.0		ug/L			02/21/14 15:45	1
Chlorobenzene	2.0		1.0		ug/L			02/21/14 15:45	1
1,2-Dichlorobenzene	1.5		1.0		ug/L			02/21/14 15:45	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			02/21/14 15:45	1
1,4-Dichlorobenzene	1.9		1.0		ug/L			02/21/14 15:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		70 - 130		02/21/14 15:45	1
Dibromofluoromethane	98		70 - 130		02/21/14 15:45	1
Toluene-d8 (Surr)	100		70 - 130		02/21/14 15:45	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	1.1	U	1.1		ug/L			02/24/14 13:17	1
Ethylene	1.0	U	1.0		ug/L			02/24/14 13:17	1
Methane	2.3		0.58		ug/L			02/24/14 13:17	1

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	12		0.050		mg/L		02/13/14 09:21	02/14/14 04:14	1
Manganese	0.42		0.010		mg/L		02/13/14 09:21	02/14/14 04:14	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	99		2.0		mg/L			02/18/14 12:34	2
Nitrate as N	0.050	U * A	0.050		mg/L			02/12/14 22:19	1
Sulfate	760		250		mg/L			02/18/14 18:07	50
Total Organic Carbon	3.6		1.0		mg/L			02/13/14 08:18	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	330		5.0		mg/L			02/19/14 18:11	1
Carbon Dioxide, Free	18		5.0		mg/L			02/19/14 18:11	1

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TestAmerica Savannah

Client Sample Results

Client: Solutia Inc.

Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98549-1

SDG: KPS110

Client Sample ID: ESL-MW-C1-F(0.2)-0214

Lab Sample ID: 680-98549-4

Date Collected: 02/11/14 12:55

Matrix: Water

Date Received: 02/12/14 11:11

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	12		0.050		mg/L		02/13/14 09:21	02/14/14 04:18	1
Manganese, Dissolved	0.42		0.010		mg/L		02/13/14 09:21	02/14/14 04:18	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	3.6		1.0		mg/L			02/13/14 12:52	1

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Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98549-1
SDG: KPS110

Client Sample ID: 1Q14 LTM Trip Blank #5

Lab Sample ID: 680-98549-5

Date Collected: 02/11/14 00:00

Matrix: Water

Date Received: 02/12/14 11:11

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			02/21/14 14:48	1
Chlorobenzene	1.0	U	1.0		ug/L			02/21/14 14:48	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			02/21/14 14:48	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			02/21/14 14:48	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			02/21/14 14:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		70 - 130		02/21/14 14:48	1
Dibromofluoromethane	97		70 - 130		02/21/14 14:48	1
Toluene-d8 (Surr)	99		70 - 130		02/21/14 14:48	1

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TestAmerica Savannah

Surrogate Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98549-1
SDG: KPS110

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (70-130)	DBFM (70-130)	TOL (70-130)
680-98549-1	ESL-MW-A-0214	93	94	89
680-98549-3	ESL-MW-C1-0214	99	98	100
680-98549-5	1Q14 LTM Trip Blank #5	99	97	99
LCS 680-316403/4	Lab Control Sample	97	91	97
LCS 680-316608/5	Lab Control Sample	112	92	108
LCSD 680-316403/5	Lab Control Sample Dup	99	93	101
LCSD 680-316608/9	Lab Control Sample Dup	99	89	101
MB 680-316403/8	Method Blank	94	100	88
MB 680-316608/7	Method Blank	98	97	97

Surrogate Legend

BFB = 4-Bromofluorobenzene

DBFM = Dibromofluoromethane

TOL = Toluene-d8 (Surr)

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TestAmerica Savannah

QC Sample Results

Client: Solutia Inc.
Project/Site: W GK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98549-1
SDG: KPS110

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 680-316403/8
Matrix: Water
Analysis Batch: 316403

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			02/20/14 12:52	1
Chlorobenzene	1.0	U	1.0		ug/L			02/20/14 12:52	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			02/20/14 12:52	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			02/20/14 12:52	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			02/20/14 12:52	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	94		70 - 130		02/20/14 12:52	1
Dibromofluoromethane	100		70 - 130		02/20/14 12:52	1
Toluene-d8 (Surr)	88		70 - 130		02/20/14 12:52	1

Lab Sample ID: LCS 680-316403/4
Matrix: Water
Analysis Batch: 316403

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	51.8		ug/L		104	74 - 123
Chlorobenzene	50.0	46.7		ug/L		93	79 - 120
1,2-Dichlorobenzene	50.0	46.3		ug/L		93	77 - 124
1,3-Dichlorobenzene	50.0	47.4		ug/L		95	79 - 123
1,4-Dichlorobenzene	50.0	46.5		ug/L		93	76 - 124

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	97		70 - 130
Dibromofluoromethane	91		70 - 130
Toluene-d8 (Surr)	97		70 - 130

Lab Sample ID: LCSD 680-316403/5
Matrix: Water
Analysis Batch: 316403

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	50.0	53.6		ug/L		107	74 - 123	3	30
Chlorobenzene	50.0	47.9		ug/L		96	79 - 120	2	30
1,2-Dichlorobenzene	50.0	46.9		ug/L		94	77 - 124	1	30
1,3-Dichlorobenzene	50.0	48.2		ug/L		96	79 - 123	2	30
1,4-Dichlorobenzene	50.0	47.4		ug/L		95	76 - 124	2	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene	99		70 - 130
Dibromofluoromethane	93		70 - 130
Toluene-d8 (Surr)	101		70 - 130

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QC Sample Results

Client: Solutia Inc.
Project/Site: W GK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98549-1
SDG: KPS110

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 680-316608/7

Matrix: Water

Analysis Batch: 316608

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			02/21/14 11:55	1
Chlorobenzene	1.0	U	1.0		ug/L			02/21/14 11:55	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			02/21/14 11:55	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			02/21/14 11:55	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			02/21/14 11:55	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98		70 - 130		02/21/14 11:55	1
Dibromofluoromethane	97		70 - 130		02/21/14 11:55	1
Toluene-d8 (Surr)	97		70 - 130		02/21/14 11:55	1

Lab Sample ID: LCS 680-316608/5

Matrix: Water

Analysis Batch: 316608

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	53.3		ug/L		107	74 - 123
Chlorobenzene	50.0	51.2		ug/L		102	79 - 120
1,2-Dichlorobenzene	50.0	55.5		ug/L		111	77 - 124
1,3-Dichlorobenzene	50.0	56.6		ug/L		113	79 - 123
1,4-Dichlorobenzene	50.0	54.1		ug/L		108	76 - 124

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	112		70 - 130
Dibromofluoromethane	92		70 - 130
Toluene-d8 (Surr)	108		70 - 130

Lab Sample ID: LCSD 680-316608/9

Matrix: Water

Analysis Batch: 316608

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	50.0	50.9		ug/L		102	74 - 123	5	30
Chlorobenzene	50.0	46.4		ug/L		93	79 - 120	10	30
1,2-Dichlorobenzene	50.0	48.3		ug/L		97	77 - 124	14	30
1,3-Dichlorobenzene	50.0	49.2		ug/L		98	79 - 123	14	30
1,4-Dichlorobenzene	50.0	48.2		ug/L		96	76 - 124	12	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene	99		70 - 130
Dibromofluoromethane	89		70 - 130
Toluene-d8 (Surr)	101		70 - 130

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QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98549-1
SDG: KPS110

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 680-316882/7

Matrix: Water

Analysis Batch: 316882

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	1.1	U	1.1		ug/L			02/24/14 11:09	1
Ethylene	1.0	U	1.0		ug/L			02/24/14 11:09	1
Methane	0.58	U	0.58		ug/L			02/24/14 11:09	1
Methane (TCD)	390	U	390		ug/L			02/24/14 11:09	1

Lab Sample ID: LCS 680-316882/3

Matrix: Water

Analysis Batch: 316882

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethane	288	277		ug/L		96	75 - 125
Ethylene	269	271		ug/L		101	75 - 125
Methane	154	138		ug/L		89	75 - 125

Lab Sample ID: LCS 680-316882/5

Matrix: Water

Analysis Batch: 316882

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane (TCD)	1920	2030		ug/L		105	75 - 125

Lab Sample ID: LCSD 680-316882/4

Matrix: Water

Analysis Batch: 316882

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethane	288	269		ug/L		93	75 - 125	3	30
Ethylene	269	260		ug/L		97	75 - 125	4	30
Methane	154	134		ug/L		87	75 - 125	3	30

Lab Sample ID: LCSD 680-316882/6

Matrix: Water

Analysis Batch: 316882

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane (TCD)	1920	1860		ug/L		97	75 - 125	8	30

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 680-315422/1-A

Matrix: Water

Analysis Batch: 315707

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 315422

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.050	U	0.050		mg/L		02/13/14 09:21	02/14/14 03:32	1
Iron, Dissolved	0.050	U	0.050		mg/L		02/13/14 09:21	02/14/14 03:32	1
Manganese	0.010	U	0.010		mg/L		02/13/14 09:21	02/14/14 03:32	1
Manganese, Dissolved	0.010	U	0.010		mg/L		02/13/14 09:21	02/14/14 03:32	1

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QC Sample Results

Client: Solutia Inc.
Project/Site: W GK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98549-1
SDG: KPS110

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LCS 680-315422/2-A
Matrix: Water
Analysis Batch: 315707

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 315422

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
Iron	5.00	5.07		mg/L		101	75 - 125	
Iron, Dissolved	5.00	5.07		mg/L		101	75 - 125	
Manganese	0.500	0.532		mg/L		106	75 - 125	
Manganese, Dissolved	0.500	0.532		mg/L		106	75 - 125	

Method: 310.1 - Alkalinity

Lab Sample ID: MB 680-315783/5
Matrix: Water
Analysis Batch: 315783

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Alkalinity	5.0	U	5.0		mg/L			02/13/14 20:09	1
Carbon Dioxide, Free	5.0	U	5.0		mg/L			02/13/14 20:09	1

Lab Sample ID: LCS 680-315783/6
Matrix: Water
Analysis Batch: 315783

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
Alkalinity	250	254		mg/L		102	80 - 120	

Lab Sample ID: LCSD 680-315783/30
Matrix: Water
Analysis Batch: 315783

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits		RPD	Limit
Alkalinity	250	226		mg/L		91	80 - 120		12	30

Lab Sample ID: MB 680-316390/5
Matrix: Water
Analysis Batch: 316390

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Alkalinity	5.0	U	5.0		mg/L			02/19/14 15:41	1
Carbon Dioxide, Free	5.0	U	5.0		mg/L			02/19/14 15:41	1

Lab Sample ID: LCS 680-316390/6
Matrix: Water
Analysis Batch: 316390

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
Alkalinity	250	227		mg/L		91	80 - 120	

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QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98549-1
SDG: KPS110

Method: 310.1 - Alkalinity (Continued)

Lab Sample ID: LCSD 680-316390/32
Matrix: Water
Analysis Batch: 316390

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity	250	219		mg/L		87	80 - 120	4	30

Method: 325.2 - Chloride

Lab Sample ID: MB 680-316242/15
Matrix: Water
Analysis Batch: 316242

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.0	U	1.0		mg/L			02/18/14 12:21	1

Lab Sample ID: LCS 680-316242/1
Matrix: Water
Analysis Batch: 316242

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	25.0	25.8		mg/L		103	85 - 115

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 680-315374/13
Matrix: Water
Analysis Batch: 315374

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0.050	U ^	0.050		mg/L			02/12/14 21:37	1

Lab Sample ID: LCS 680-315374/14
Matrix: Water
Analysis Batch: 315374

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	0.500	0.553	* ^	mg/L		111	90 - 110
Nitrate Nitrite as N	1.00	1.05		mg/L		105	90 - 110
Nitrite as N	0.500	0.495		mg/L		99	90 - 110

Method: 375.4 - Sulfate

Lab Sample ID: MB 680-316246/23
Matrix: Water
Analysis Batch: 316246

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	5.0	U	5.0		mg/L			02/18/14 17:15	1

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QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98549-1
SDG: KPS110

Method: 375.4 - Sulfate (Continued)

Lab Sample ID: LCS 680-316246/6
Matrix: Water
Analysis Batch: 316246

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	19.9		mg/L		100	75 - 125

Method: 415.1 - DOC

Lab Sample ID: MB 680-315513/2-A
Matrix: Water
Analysis Batch: 315508

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Dissolved Organic Carbon	1.0	U	1.0		mg/L			02/13/14 09:24	1

Lab Sample ID: LCS 680-315513/1-A
Matrix: Water
Analysis Batch: 315508

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	20.0	20.6		mg/L		103	80 - 120

Method: 415.1 - TOC

Lab Sample ID: MB 680-315507/25
Matrix: Water
Analysis Batch: 315507

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Total Organic Carbon	1.0	U	1.0		mg/L			02/13/14 04:46	1

Lab Sample ID: LCS 680-315507/26
Matrix: Water
Analysis Batch: 315507

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	20.0	21.0		mg/L		105	80 - 120

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QC Association Summary

Client: Solutia Inc.
Project/Site: W GK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98549-1
SDG: KPS110

GC/MS VOA

Analysis Batch: 316403

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98549-1	ESL-MW-A-0214	Total/NA	Water	8260B	
LCS 680-316403/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-316403/5	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-316403/8	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 316608

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98549-3	ESL-MW-C1-0214	Total/NA	Water	8260B	
680-98549-5	1Q14 LTM Trip Blank #5	Total/NA	Water	8260B	
LCS 680-316608/5	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-316608/9	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-316608/7	Method Blank	Total/NA	Water	8260B	

GC VOA

Analysis Batch: 316882

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98549-1	ESL-MW-A-0214	Total/NA	Water	RSK-175	
680-98549-3	ESL-MW-C1-0214	Total/NA	Water	RSK-175	
LCS 680-316882/3	Lab Control Sample	Total/NA	Water	RSK-175	
LCS 680-316882/5	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 680-316882/4	Lab Control Sample Dup	Total/NA	Water	RSK-175	
LCSD 680-316882/6	Lab Control Sample Dup	Total/NA	Water	RSK-175	
MB 680-316882/7	Method Blank	Total/NA	Water	RSK-175	

Metals

Prep Batch: 315422

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98549-1	ESL-MW-A-0214	Total Recoverable	Water	3005A	
680-98549-2	ESL-MW-A-F(0.2)-0214	Dissolved	Water	3005A	
680-98549-3	ESL-MW-C1-0214	Total Recoverable	Water	3005A	
680-98549-4	ESL-MW-C1-F(0.2)-0214	Dissolved	Water	3005A	
LCS 680-315422/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 680-315422/1-A	Method Blank	Total Recoverable	Water	3005A	

Analysis Batch: 315707

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98549-1	ESL-MW-A-0214	Total Recoverable	Water	6010C	315422
680-98549-2	ESL-MW-A-F(0.2)-0214	Dissolved	Water	6010C	315422
680-98549-3	ESL-MW-C1-0214	Total Recoverable	Water	6010C	315422
680-98549-4	ESL-MW-C1-F(0.2)-0214	Dissolved	Water	6010C	315422
LCS 680-315422/2-A	Lab Control Sample	Total Recoverable	Water	6010C	315422
MB 680-315422/1-A	Method Blank	Total Recoverable	Water	6010C	315422

General Chemistry

Analysis Batch: 315374

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98549-1	ESL-MW-A-0214	Total/NA	Water	353.2	

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QC Association Summary

Client: Solutia Inc.
Project/Site: W GK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98549-1
SDG: KPS110

General Chemistry (Continued)

Analysis Batch: 315374 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98549-3	ESL-MW-C1-0214	Total/NA	Water	353.2	
LCS 680-315374/14	Lab Control Sample	Total/NA	Water	353.2	
MB 680-315374/13	Method Blank	Total/NA	Water	353.2	

Analysis Batch: 315507

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98549-1	ESL-MW-A-0214	Total/NA	Water	415.1	
680-98549-3	ESL-MW-C1-0214	Total/NA	Water	415.1	
LCS 680-315507/26	Lab Control Sample	Total/NA	Water	415.1	
MB 680-315507/25	Method Blank	Total/NA	Water	415.1	

Analysis Batch: 315508

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98549-2	ESL-MW-A-F(0.2)-0214	Dissolved	Water	415.1	
680-98549-4	ESL-MW-C1-F(0.2)-0214	Dissolved	Water	415.1	
LCS 680-315513/1-A	Lab Control Sample	Dissolved	Water	415.1	315513
MB 680-315513/2-A	Method Blank	Dissolved	Water	415.1	315513

Filtration Batch: 315513

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 680-315513/1-A	Lab Control Sample	Dissolved	Water	FILTRATION	
MB 680-315513/2-A	Method Blank	Dissolved	Water	FILTRATION	

Analysis Batch: 315783

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98549-1	ESL-MW-A-0214	Total/NA	Water	310.1	
LCS 680-315783/6	Lab Control Sample	Total/NA	Water	310.1	
LCSD 680-315783/30	Lab Control Sample Dup	Total/NA	Water	310.1	
MB 680-315783/5	Method Blank	Total/NA	Water	310.1	

Analysis Batch: 316242

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98549-1	ESL-MW-A-0214	Total/NA	Water	325.2	
680-98549-3	ESL-MW-C1-0214	Total/NA	Water	325.2	
LCS 680-316242/1	Lab Control Sample	Total/NA	Water	325.2	
MB 680-316242/15	Method Blank	Total/NA	Water	325.2	

Analysis Batch: 316246

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98549-1	ESL-MW-A-0214	Total/NA	Water	375.4	
680-98549-3	ESL-MW-C1-0214	Total/NA	Water	375.4	
LCS 680-316246/6	Lab Control Sample	Total/NA	Water	375.4	
MB 680-316246/23	Method Blank	Total/NA	Water	375.4	

Analysis Batch: 316390

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98549-3	ESL-MW-C1-0214	Total/NA	Water	310.1	
LCS 680-316390/6	Lab Control Sample	Total/NA	Water	310.1	
LCSD 680-316390/32	Lab Control Sample Dup	Total/NA	Water	310.1	
MB 680-316390/5	Method Blank	Total/NA	Water	310.1	

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Lab Chronicle

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98549-1
SDG: KPS110

Client Sample ID: ESL-MW-A-0214

Lab Sample ID: 680-98549-1

Date Collected: 02/11/14 15:00

Matrix: Water

Date Received: 02/12/14 11:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	316403	02/20/14 19:01	MMT	TAL SAV
Total/NA	Analysis	RSK-175		1	316882	02/24/14 13:04	TAR	TAL SAV
Total Recoverable	Prep	3005A			315422	02/13/14 09:21	BJB	TAL SAV
Total Recoverable	Analysis	6010C		1	315707	02/14/14 04:04	BCB	TAL SAV
Total/NA	Analysis	353.2		1	315374	02/12/14 22:17	GRX	TAL SAV
Total/NA	Analysis	415.1		1	315507	02/13/14 08:01	CMP	TAL SAV
Total/NA	Analysis	310.1		1	315783	02/13/14 21:47	LBH	TAL SAV
Total/NA	Analysis	325.2		2	316242	02/18/14 12:34	JME	TAL SAV
Total/NA	Analysis	375.4		20	316246	02/18/14 18:07	JME	TAL SAV

Client Sample ID: ESL-MW-A-F(0.2)-0214

Lab Sample ID: 680-98549-2

Date Collected: 02/11/14 15:00

Matrix: Water

Date Received: 02/12/14 11:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			315422	02/13/14 09:21	BJB	TAL SAV
Dissolved	Analysis	6010C		1	315707	02/14/14 04:09	BCB	TAL SAV
Dissolved	Analysis	415.1		1	315508	02/13/14 12:36	CMP	TAL SAV

Client Sample ID: ESL-MW-C1-0214

Lab Sample ID: 680-98549-3

Date Collected: 02/11/14 12:55

Matrix: Water

Date Received: 02/12/14 11:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	316608	02/21/14 15:45	MMT	TAL SAV
Total/NA	Analysis	RSK-175		1	316882	02/24/14 13:17	TAR	TAL SAV
Total Recoverable	Prep	3005A			315422	02/13/14 09:21	BJB	TAL SAV
Total Recoverable	Analysis	6010C		1	315707	02/14/14 04:14	BCB	TAL SAV
Total/NA	Analysis	353.2		1	315374	02/12/14 22:19	GRX	TAL SAV
Total/NA	Analysis	415.1		1	315507	02/13/14 08:18	CMP	TAL SAV
Total/NA	Analysis	325.2		2	316242	02/18/14 12:34	JME	TAL SAV
Total/NA	Analysis	375.4		50	316246	02/18/14 18:07	JME	TAL SAV
Total/NA	Analysis	310.1		1	316390	02/19/14 18:11	LBH	TAL SAV

Client Sample ID: ESL-MW-C1-F(0.2)-0214

Lab Sample ID: 680-98549-4

Date Collected: 02/11/14 12:55

Matrix: Water

Date Received: 02/12/14 11:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			315422	02/13/14 09:21	BJB	TAL SAV
Dissolved	Analysis	6010C		1	315707	02/14/14 04:18	BCB	TAL SAV

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Lab Chronicle

Client: Solutia Inc.
Project/Site: W GK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98549-1
SDG: KPS110

Client Sample ID: ESL-MW-C1-F(0.2)-0214

Lab Sample ID: 680-98549-4

Date Collected: 02/11/14 12:55

Matrix: Water

Date Received: 02/12/14 11:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	415.1		1	315508	02/13/14 12:52	CMP	TAL SAV

Client Sample ID: 1Q14 LTM Trip Blank #5

Lab Sample ID: 680-98549-5

Date Collected: 02/11/14 00:00

Matrix: Water

Date Received: 02/12/14 11:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	316608	02/21/14 14:48	MMT	TAL SAV

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

TestAmerica Savannah

MAR 10 2014

Savannah
5102 LaRoche Avenue

Savannah, GA 31404
phone 912.354.7858 fax 912.352.0165

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact		Project Manager: Bob Billman		Site Contact: Michael Corbett		Date: 2/11/14		COC No:									
URS Corporation		Tel/Fax: (314) 743-4108		Lab Contact: Michele Kersey		Carrier: Fed Ex		1 of 1 COCs									
1001 Highlands Plaza Drive West, Suite 300		Analysis Turnaround Time						21563600.00001									
St. Louis, MO 63110		Calendar (C) or Work Days (W) <u>C</u>						SDG No.									
(314) 429-0100 Phone		TAT if different from Below <u>Standard</u>															
(314) 429-0462 FAX		<input type="checkbox"/> 2 weeks															
Project Name: 1Q14 LTM GW Sampling		<input type="checkbox"/> 1 week															
Site: Solutia WG Krummrich Facility		<input type="checkbox"/> 2 days															
P O #		<input type="checkbox"/> 1 day															
Sample Identification		Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs by 8260B	Total Fe/Mn by 6010C	Alk/CO2 by 310.1	Chloride by 325.2/Sulfate by 375.4	Dissolved Gases by RSK 175	Nitrate by 353.2	TOC by 415.1	Dissolved Fe/Mn by 6010C	DOC by 415.1	Sample Specific Notes:
ESL-MW-A-0214 ✓	2/11/14	1500	G	Water	14			3	1	1	1	3	2	3			
ESL-MW-A-F(0.2)-0214 ✓		1500	G	Water	2	X									1	1	
ESL-MW-C1-0214 ✓		1255	G	Water	14			3	1	1	1	3	2	3			
ESL-MW-C1-F(0.2)-0214 ✓		1255	G	Water	2	X									1	1	
ESL-MW-D1-0214 MC			G	Water	14			3	1	1	1	3	2	3			
ESL-MW-D1-F(0.2)-0214 MC			G	Water	2	X									1	1	
			G	Water	14			3	1	1	1	3	2	3			
			G	Water	2	X									1	1	
1Q14 LTM Trip Blank # 5 ✓	2/11/14	—	—	Water	2			2									
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other							2 4 1 1 2 3 1 3 4 2										
Possible Hazard Identification							Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)										
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown							<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months										
Special Instructions/QC Requirements & Comments:																	
Relinquished by: <u>Tricht</u>		Company: URS		Date/Time: 2/11/14 1600		Received by: <u>Chris Burch</u>		Company: TIAS		Date/Time: 2-12-14 11:11		2.28					
Relinquished by:		Company:		Date/Time:		Received by:		Company:		Date/Time:							
Relinquished by:		Company:		Date/Time:		Received by:		Company:		Date/Time:							



680-98549 Chain of Custody

Login Sample Receipt Checklist

Client: Solutia Inc.

Job Number: 680-98549-1

SDG Number: KPS110

Login Number: 98549

List Source: TestAmerica Savannah

List Number: 1

Creator: Banda, Christy S

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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Certification Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98549-1
SDG: KPS110

Laboratory: TestAmerica Savannah

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
	AFCEE		SAVLAB	
A2LA	DoD ELAP		399.01	02-28-15
A2LA	ISO/IEC 17025		399.01	02-28-15
Alabama	State Program	4	41450	06-30-14
Arkansas DEO	State Program	6	88-0692	01-31-15
California	NELAP	9	3217CA	07-31-14
Colorado	State Program	8	N/A	12-31-14
Connecticut	State Program	1	PH-0161	03-31-15
Florida	NELAP	4	E87052	06-30-14
GA Dept. of Agriculture	State Program	4	N/A	06-30-14
Georgia	State Program	4	N/A	06-30-14
Georgia	State Program	4	803	06-30-14
Guam	State Program	9	09-005r	04-17-14
Hawaii	State Program	9	N/A	06-30-14
Illinois	NELAP	5	200022	11-30-14
Indiana	State Program	5	N/A	06-30-14
Iowa	State Program	7	353	07-01-15
Kentucky (DW)	State Program	4	90084	12-31-14
Kentucky (UST)	State Program	4	18	06-30-14
Louisiana	NELAP	6	LA100015	12-31-14
Maine	State Program	1	GA00006	08-16-14
Maryland	State Program	3	250	12-31-14
Massachusetts	State Program	1	M-GA006	06-30-14
Michigan	State Program	5	9925	06-30-14
Mississippi	State Program	4	N/A	06-30-14
Montana	State Program	8	CERT0081	01-01-15
Nebraska	State Program	7	TestAmerica-Savannah	06-30-14
New Jersey	NELAP	2	GA769	06-30-14
New Mexico	State Program	6	N/A	06-30-14
New York	NELAP	2	10842	03-31-14
North Carolina DENR	State Program	4	269	12-31-14
North Carolina DHHS	State Program	4	13701	07-31-14
Oklahoma	State Program	6	9984	08-31-14
Pennsylvania	NELAP	3	68-00474	06-30-14
Puerto Rico	State Program	2	GA00006	12-31-14
South Carolina	State Program	4	98001	06-30-14
Tennessee	State Program	4	TN02961	06-30-14
Texas	NELAP	6	T104704185-08-TX	11-30-14
USDA	Federal		SAV 3-04	04-07-14
Virginia	NELAP	3	460161	06-14-14
Washington	State Program	10	C1794	06-10-14
West Virginia DEP	State Program	3	94	06-30-14
West Virginia DHHR	State Program	3	9950C	12-31-13 *
Wisconsin	State Program	5	999819810	08-31-14
Wyoming	State Program	8	BTMS-L	06-30-14

* Expired certification is currently pending renewal and is considered valid.

TestAmerica Savannah

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Solutia Krummrich Data Review WGK LTM 1Q14

Laboratory SDG: KPS111 Rev. 3

Data Reviewer: Melissa Mansker

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 3/13/2014

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2008. USEPA National Functional Guidelines for Superfund Inorganic Data Review 2010

Work Plan: Revised Long-Term Monitoring Program (LTMP) Work Plan (Solutia 2009)

Sample Identification	
CPA-MW-2D-0214	CPA-MW-2D-F(0.2)-0214
CPA-MW-2D-0214-AD	ESL-MW-D1-0214
ESL-MW-D1-F(0.2)-0214	1Q14 LTM Trip Blank #6

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated that samples CPA-MW-2D-F(0.2)-0214 and ESL-MW-D1-F(0.2)-0214 were field filtered, however were laboratory preserved and analyzed for dissolved organic carbon approximately two days outside the two hour hold time for preservation. LCS/LCSD recoveries were outside evaluation criteria for 4-chloroaniline. Surrogates were diluted out and not recovered in SVOC field duplicate pair, CPA-MW-2D-0214/CPA-MW-2D-0214-AD. Nitrate MS/MSD recoveries were outside evaluation criteria for sample CPA-MW-2D-0214. Samples were diluted due to high levels of target analytes. These issues are addressed further in the appropriate sections below.

The cooler receipt form indicated that the laboratory report was revised and re-issued on March 13, 2014 to correct a laboratory transcription error for sample ID ESL-MW-D1-0214, and to flag samples CPA-MW-2D-F(0.2)-0214 and ESL-MW-D1-F(0.2)-0214 outside holding time criteria for dissolved organic carbon analysis.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

No, samples CPA-MW-2D-F(0.2)-0214 and ESL-MW-D1-F(0.2)-0214 were field filtered, however were laboratory preserved and analyzed for dissolved organic carbon approximately two days outside the two hour hold time for preservation. Analytical data

that required qualification based on holding time criteria are included in the table below.

Sample ID	Parameter	Analyte	Qualification
CPA-MW-2D-F(0.2)-0214	General chemistry	Dissolved organic carbon	J
ESL-MW-D1-F(0.2)-0214	General chemistry	Dissolved organic carbon	J

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

No

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD/ RPD Criteria
LCS/LCSD 680-315638/7/8-A	SVOCs	4-Chloroaniline	14/12	14	42-130/50

The compound 4-chloroaniline is not reported for the associated samples.

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Surrogates were diluted out and not recovered in SVOC analysis of field duplicate pair CPA-MW-2D-0214/CPA-MW-2D-0214-AD. No qualification of data is required.

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples collected as part of this SDG?

Yes, although not requested, sample CPA-MW-2D-0214 was spiked and analyzed for chloride.

Were MS/MSD recoveries within evaluation criteria?

No

MS/MSD ID	Parameter	Analyte	MS/MSD Recovery	RPD	MS/MSD/ RPD Criteria
CPA-MW-2D-0214	General chemistry	Chloride	80/81	0	85-115/30

Analytical data that required qualification based on MS/MSD data are included in the table below.

Sample ID	Parameter	Analyte	Qualification
CPA-MW-2D-0214	General chemistry	Chloride	J

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

Yes

Field ID	Field Duplicate ID
CPA-MW-2D-0214	CPA-MW-2D-0214-AD

Were field duplicates within evaluation criteria?

Yes

10.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

11.0 Additional Qualifications

Were additional qualifications applied?

No

SDG KPS111

Results of Samples from Monitoring Well:

CPA-MW-2D
ESL-MW-D1

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

TestAmerica Job ID: 680-98575-1
TestAmerica Sample Delivery Group: KPS111
Client Project/Site: WGK Long Term Monitoring - 1Q14
Revision: 3

For:
Solutia Inc.
575 Maryville Centre Dr.
Saint Louis, Missouri 63141

Attn: Mr. Jerry Rinaldi

Michele R Kersey

Authorized for release by:
3/13/2014 3:37:54 PM

Michele Kersey, Project Manager I
(912)354-7858
michele.kersey@testamericainc.com

LINKS

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results through

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The
Expert**

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www.testamericainc.com

Reviewed on
MAR 13 2014
MM

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.


This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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MAR 13 2014 

Case Narrative

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98575-1
SDG: KPS111

Job ID: 680-98575-1

Laboratory: TestAmerica Savannah

Narrative

CASE NARRATIVE

Client: Solutia Inc.

Project: WGK Long Term Monitoring - 1Q14

Report Number: 680-98575-1 Revision 3

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT

The samples were received on 2/13/2014 9:40 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.0° C.

Except:

Method(s) 415.1: Samples submitted for dissolved organic carbon (DOC) require filtration and preservation in the field within 2 hours of collection. The following sample(s) were filtered in the field but preserved in the laboratory outside the method-defined 2-hour holding time: CPA-MW-2D-F(0.2)-0214 (680-98575-2), ESL-MW-D1-F(0.2)-0214 (680-98575-5).

NOTES: Report revised to correct sample id ESL-MW-D1-0214 (680-98575-4). Added "H" flags to out of hold data for Dissolved Organic Carbon method 415.1 for the following samples CPA-MW-2D-F(0.2)-0214 (680-98575-2), ESL-MW-D1-F(0.2)-0214 (680-98575-5).

VOLATILE ORGANIC COMPOUNDS (GC-MS)

Samples CPA-MW-2D-0214 (680-98575-1), CPA-MW-2D-0214-AD (680-98575-3), ESL-MW-D1-0214 (680-98575-4) and 1Q14 LTM Trip Blank #6 (680-98575-6) were analyzed for Volatile Organic Compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 02/20/2014 and 02/21/2014.

Samples CPA-MW-2D-0214 (680-98575-1)[250X], CPA-MW-2D-0214-AD (680-98575-3)[250X] and ESL-MW-D1-2014 (680-98575-4)[25X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No difficulties were encountered during the volatiles analysis.

All quality control parameters were within the acceptance limits.

SEMIVOLATILE ORGANIC COMPOUNDS (AQUEOUS)

Samples CPA-MW-2D-0214 (680-98575-1) and CPA-MW-2D-0214-AD (680-98575-3) were analyzed for Semivolatile Organic Compounds (Aqueous) in accordance with EPA SW-846 Method 8270D. The samples were prepared on 02/14/2014 and analyzed on 02/17/2014.

The following analyte(s) recovered outside control limits for the LCS/LCSD associated with batch 315638: 4-Chloroaniline, 3-Nitroaniline, Aniline and N-Nitrosodiphenylamine. This is not indicative of a systematic control problem because these were random marginal exceedances. Per the associated SOP we are allowed four analytes to be out in the full list spike; results have been qualified and reported.

The laboratory control sample and the laboratory control sample duplicate (LCS/LCSD) for batch 315638 recovered outside control limits for the following analyte(s): Atrazine. Atrazine has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed. Batch precision also exceeded control limits for these analyte(s). These results

MAR 13 2014



Case Narrative

Client: Solutia Inc.
Project/Site: W GK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98575-1
SDG: KPS111

Job ID: 680-98575-1 (Continued)

Laboratory: TestAmerica Savannah (Continued)

have been reported and qualified.

Samples CPA-MW-2D-0214 (680-98575-1)[10X] and CPA-MW-2D-0214-AD (680-98575-3)[10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No other difficulties were encountered during the semivolatiles analysis.

All other quality control parameters were within the acceptance limits.

DISSOLVED GASES

Samples CPA-MW-2D-0214 (680-98575-1) and ESL-MW-D1-0214 (680-98575-4) were analyzed for dissolved gases in accordance with RSK-175. The samples were analyzed on 02/25/2014.

No difficulties were encountered during the dissolved gases analysis.

All quality control parameters were within the acceptance limits.

METALS (ICP)

Samples CPA-MW-2D-F(0.2)-0214 (680-98575-2) and ESL-MW-D1-F(0.2)-0214 (680-98575-5) were analyzed for Metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 02/13/2014 and analyzed on 02/17/2014.

No difficulties were encountered during the metals analysis.

All quality control parameters were within the acceptance limits.

METALS (ICP)

Samples CPA-MW-2D-0214 (680-98575-1) and ESL-MW-D1-0214 (680-98575-4) were analyzed for Metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 02/13/2014 and analyzed on 02/17/2014.

No difficulties were encountered during the metals analysis.

All quality control parameters were within the acceptance limits.

ALKALINITY

Samples CPA-MW-2D-0214 (680-98575-1) and ESL-MW-D1-0214 (680-98575-4) were analyzed for alkalinity in accordance with EPA Method 310.1. The samples were analyzed on 02/23/2014.

No difficulties were encountered during the alkalinity analysis.

All quality control parameters were within the acceptance limits.

CHLORIDE

Samples CPA-MW-2D-0214 (680-98575-1) and ESL-MW-D1-0214 (680-98575-4) were analyzed for Chloride in accordance with EPA Method 325.2. The samples were analyzed on 02/18/2014.

Chloride exceeded the recovery criteria low for the MS & MSD of sample CPA-MW-2D-0214 (680-98575-1) in batch 680-316243.

Refer to the QC report for details.

Samples CPA-MW-2D-0214 (680-98575-1)[2X] and ESL-MW-D1-0214 (680-98575-4)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No other difficulties were encountered during the chloride analysis.

All other quality control parameters were within the acceptance limits.

MAR 13 2014



Case Narrative

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98575-1
SDG: KPS111

Job ID: 680-98575-1 (Continued)

Laboratory: TestAmerica Savannah (Continued)

NITRATE-NITRITE AS NITROGEN

Samples CPA-MW-2D-0214 (680-98575-1) and ESL-MW-D1-0214 (680-98575-4) were analyzed for nitrate-nitrite as nitrogen in accordance with EPA Method 353.2. The samples were analyzed on 02/13/2014.

The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 316243 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No other difficulties were encountered during the nitrate-nitrite analysis.

All other quality control parameters were within the acceptance limits.

SULFATE

Samples CPA-MW-2D-0214 (680-98575-1) and ESL-MW-D1-0214 (680-98575-4) were analyzed for sulfate in accordance with EPA Method 375.4. The samples were analyzed on 02/18/2014.

Samples CPA-MW-2D-0214 (680-98575-1)[2X] and ESL-MW-D1-0214 (680-98575-4)[20X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No difficulties were encountered during the sulfate analysis.

All quality control parameters were within the acceptance limits.

TOTAL ORGANIC CARBON

Samples CPA-MW-2D-0214 (680-98575-1) and ESL-MW-D1-0214 (680-98575-4) were analyzed for total organic carbon in accordance with EPA Method 415.1. The samples were analyzed on 02/20/2014.

No difficulties were encountered during the TOC analysis.


All quality control parameters were within the acceptance limits.

DISSOLVED ORGANIC CARBON (DOC)

Samples CPA-MW-2D-F(0.2)-0214 (680-98575-2) and ESL-MW-D1-F(0.2)-0214 (680-98575-5) were analyzed for Dissolved Organic Carbon (DOC) in accordance with EPA Method 415.1. The samples were analyzed on 02/14/2014.

No difficulties were encountered during the DOC analysis.

All quality control parameters were within the acceptance limits.

MAR 13 2014 

Sample Summary


Client: Solutia Inc.

Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98575-1

SDG: KPS111

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-98575-1	CPA-MW-2D-0214 ✓	Water	02/12/14 15:10	02/13/14 09:40
680-98575-2	CPA-MW-2D-F(0.2)-0214 ✓	Water	02/12/14 15:10	02/13/14 09:40
680-98575-3	CPA-MW-2D-0214-AD ✓	Water	02/12/14 15:10	02/13/14 09:40
680-98575-4	ESL-MW-D1-0214 ✓	Water	02/12/14 11:05	02/13/14 09:40
680-98575-5	ESL-MW-D1-F(0.2)-0214 ✓	Water	02/12/14 11:05	02/13/14 09:40
680-98575-6	1Q14 LTM Trip Blank #6 ✓	Water	02/12/14 00:00	02/13/14 09:40

MAR 13 2014 

TestAmerica Savannah

Method Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98575-1
SDG: KPS111

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL SAV
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL SAV
RSK-175	Dissolved Gases (GC)	RSK	TAL SAV
6010C	Metals (ICP)	SW846	TAL SAV
310.1	Alkalinity	MCAWW	TAL SAV
325.2	Chloride	MCAWW	TAL SAV
353.2	Nitrogen, Nitrate-Nitrite	MCAWW	TAL SAV
375.4	Sulfate	MCAWW	TAL SAV
415.1	TOC	MCAWW	TAL SAV
415.1	DOC	MCAWW	TAL SAV

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175.

Rev. 0, 8/11/94, USEPA Research Lab

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

MAR 13 2014



TestAmerica Savannah

Definitions/Glossary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98575-1
SDG: KPS111

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

GC/MS Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.
*	LCS or LCSD exceeds the control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

General Chemistry

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
F1	MS and/or MSD Recovery exceeds the control limits
H	Sample was prepped or analyzed beyond the specified holding time

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

MAR 13 2014

TestAmerica Savannah

Detection Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98575-1
SDG: KPS111

Client Sample ID: CPA-MW-2D-0214

Lab Sample ID: 680-98575-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	960		250		ug/L	250		8260B	Total/NA
Chlorobenzene	26000		250		ug/L	250		8260B	Total/NA
1,3-Dichlorobenzene	370		250		ug/L	250		8260B	Total/NA
1,4-Dichlorobenzene	8600		250		ug/L	250		8260B	Total/NA
Methane	24		0.58		ug/L	1		RSK-175	Total/NA
Iron	10		0.050		mg/L	1		6010C	Total Recoverable
Manganese	0.42		0.010		mg/L	1		6010C	Total Recoverable
Chloride	59		2.0		mg/L	2		325.2	Total/NA
Sulfate	56		10		mg/L	2		375.4	Total/NA
Total Organic Carbon	7.9		1.0		mg/L	1		415.1	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Alkalinity	440		5.0		mg/L	1		310.1	Total/NA
Carbon Dioxide, Free	29		5.0		mg/L	1		310.1	Total/NA

Client Sample ID: CPA-MW-2D-F(0.2)-0214

Lab Sample ID: 680-98575-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron, Dissolved	8.4		0.050		mg/L	1		6010C	Dissolved
Manganese, Dissolved	0.42		0.010		mg/L	1		6010C	Dissolved
Dissolved Organic Carbon	7.3	H J	1.0		mg/L	1		415.1	Dissolved

Client Sample ID: CPA-MW-2D-0214-AD

Lab Sample ID: 680-98575-3

Analyte	Result	Qualifier	RL	MOL	Unit	Dil Fac	D	Method	Prep Type
Benzene	1000		250		ug/L	250		8260B	Total/NA
Chlorobenzene	26000		250		ug/L	250		8260B	Total/NA
1,3-Dichlorobenzene	420		250		ug/L	250		8260B	Total/NA
1,4-Dichlorobenzene	8400		250		ug/L	250		8260B	Total/NA

Client Sample ID: ESL-MW-D1-0214

Lab Sample ID: 680-98575-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	62		25		ug/L	25		8260B	Total/NA
Chlorobenzene	2500		25		ug/L	25		8260B	Total/NA
1,4-Dichlorobenzene	60		25		ug/L	25		8260B	Total/NA
Methane	18		0.58		ug/L	1		RSK-175	Total/NA
Iron	16		0.050		mg/L	1		6010C	Total Recoverable
Manganese	0.41		0.010		mg/L	1		6010C	Total Recoverable
Chloride	120		5.0		mg/L	5		325.2	Total/NA
Sulfate	560		100		mg/L	20		375.4	Total/NA
Total Organic Carbon	3.5		1.0		mg/L	1		415.1	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Alkalinity	370		5.0		mg/L	1		310.1	Total/NA
Carbon Dioxide, Free	31		5.0		mg/L	1		310.1	Total/NA

Client Sample ID: ESL-MW-D1-F(0.2)-0214

Lab Sample ID: 680-98575-5

This Detection Summary does not include radiochemical test results.

TestAmerica Savannah

Detection Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98575-1
SDG: KPS111

Client Sample ID: ESL-MW-D1-F(0.2)-0214 (Continued)

Lab Sample ID: 680-98575-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron, Dissolved	16		0.050		mg/L	1		6010C	Dissolved
Manganese, Dissolved	0.40		0.010		mg/L	1		6010C	Dissolved
Dissolved Organic Carbon	3.5	H J	1.0		mg/L	1		415.1	Dissolved

Client Sample ID: 1Q14 LTM Trip Blank #6

Lab Sample ID: 680-98575-6

No Detections.

This Detection Summary does not include radiochemical test results.

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TestAmerica Savannah

Client Sample Results

Client: Solutia Inc.
Project/Site: W GK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98575-1
SDG: KPS111

Client Sample ID: CPA-MW-2D-0214

Lab Sample ID: 680-98575-1

Date Collected: 02/12/14 15:10

Matrix: Water

Date Received: 02/13/14 09:40

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	960		250		ug/L			02/20/14 19:59	250
Chlorobenzene	26000		250		ug/L			02/20/14 19:59	250
1,2-Dichlorobenzene	250	U	250		ug/L			02/20/14 19:59	250
1,3-Dichlorobenzene	370		250		ug/L			02/20/14 19:59	250
1,4-Dichlorobenzene	8600		250		ug/L			02/20/14 19:59	250

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	95		70 - 130		02/20/14 19:59	250
Dibromofluoromethane	96		70 - 130		02/20/14 19:59	250
Toluene-d8 (Surr)	92		70 - 130		02/20/14 19:59	250

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorophenol	110	U	110		ug/L		02/14/14 16:00	02/17/14 14:56	10
1,2,4-Trichlorobenzene	110	U	110		ug/L		02/14/14 16:00	02/17/14 14:56	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	0	D	38 - 130	02/14/14 16:00	02/17/14 14:56	10
2-Fluorophenol	0	D	25 - 130	02/14/14 16:00	02/17/14 14:56	10
Nitrobenzene-d5	0	D	39 - 130	02/14/14 16:00	02/17/14 14:56	10
Phenol-d5	0	D	25 - 130	02/14/14 16:00	02/17/14 14:56	10
Terphenyl-d14	0	D	10 - 143	02/14/14 16:00	02/17/14 14:56	10
2,4,6-Tribromophenol	0	D	31 - 141	02/14/14 16:00	02/17/14 14:56	10

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	1.1	U	1.1		ug/L			02/25/14 12:38	1
Ethylene	1.0	U	1.0		ug/L			02/25/14 12:38	1
Methane	24		0.58		ug/L			02/25/14 12:38	1

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	10		0.050		mg/L		02/13/14 14:48	02/17/14 00:05	1
Manganese	0.42		0.010		mg/L		02/13/14 14:48	02/17/14 00:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	59	J	2.0		mg/L			02/18/14 12:41	2
Nitrate as N	0.050	U	0.050		mg/L			02/13/14 21:23	1
Sulfate	56		10		mg/L			02/18/14 17:17	2
Total Organic Carbon	7.9		1.0		mg/L			02/20/14 00:52	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	440		5.0		mg/L			02/23/14 18:04	1
Carbon Dioxide, Free	29		5.0		mg/L			02/23/14 18:04	1

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TestAmerica Savannah

Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98575-1
SDG: KPS111

Client Sample ID: CPA-MW-2D-F(0.2)-0214

Lab Sample ID: 680-98575-2

Date Collected: 02/12/14 15:10

Matrix: Water

Date Received: 02/13/14 09:40

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	8.4		0.050		mg/L		02/13/14 14:48	02/17/14 00:10	1
Manganese, Dissolved	0.42		0.010		mg/L		02/13/14 14:48	02/17/14 00:10	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	7.3	H J	1.0		mg/L			02/14/14 15:53	1

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TestAmerica Savannah

Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98575-1
SDG: KPS111

Client Sample ID: CPA-MW-2D-0214-AD

Lab Sample ID: 680-98575-3

Date Collected: 02/12/14 15:10

Matrix: Water

Date Received: 02/13/14 09:40

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1000		250		ug/L			02/21/14 14:33	250
Chlorobenzene	26000		250		ug/L			02/21/14 14:33	250
1,2-Dichlorobenzene	250	U	250		ug/L			02/21/14 14:33	250
1,3-Dichlorobenzene	420		250		ug/L			02/21/14 14:33	250
1,4-Dichlorobenzene	8400		250		ug/L			02/21/14 14:33	250

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	95		70 - 130		02/21/14 14:33	250
Dibromofluoromethane	94		70 - 130		02/21/14 14:33	250
Toluene-d8 (Surr)	92		70 - 130		02/21/14 14:33	250

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorophenol	110	U	110		ug/L		02/14/14 16:00	02/17/14 15:20	10
1,2,4-Trichlorobenzene	110	U	110		ug/L		02/14/14 16:00	02/17/14 15:20	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	0	D	38 - 130	02/14/14 16:00	02/17/14 15:20	10
2-Fluorophenol	0	D	25 - 130	02/14/14 16:00	02/17/14 15:20	10
Nitrobenzene-d5	0	D	39 - 130	02/14/14 16:00	02/17/14 15:20	10
Phenol-d5	0	D	25 - 130	02/14/14 16:00	02/17/14 15:20	10
Terphenyl-d14	0	D	10 - 143	02/14/14 16:00	02/17/14 15:20	10
2,4,6-Tribromophenol	0	D	31 - 141	02/14/14 16:00	02/17/14 15:20	10

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TestAmerica Savannah

Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98575-1
SDG: KPS111

Client Sample ID: ESL-MW-D1-0214

Lab Sample ID: 680-98575-4

Date Collected: 02/12/14 11:05

Matrix: Water

Date Received: 02/13/14 09:40

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	62		25		ug/L			02/21/14 14:05	25
Chlorobenzene	2500		25		ug/L			02/21/14 14:05	25
1,2-Dichlorobenzene	25	U	25		ug/L			02/21/14 14:05	25
1,3-Dichlorobenzene	25	U	25		ug/L			02/21/14 14:05	25
1,4-Dichlorobenzene	60		25		ug/L			02/21/14 14:05	25

Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	97		70 - 130					02/21/14 14:05	25
Dibromofluoromethane	92		70 - 130					02/21/14 14:05	25
Toluene-d8 (Surr)	92		70 - 130					02/21/14 14:05	25

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	1.1	U	1.1		ug/L			02/25/14 12:51	1
Ethylene	1.0	U	1.0		ug/L			02/25/14 12:51	1
Methane	18		0.58		ug/L			02/25/14 12:51	1

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	16		0.050		mg/L		02/13/14 14:48	02/17/14 00:15	1
Manganese	0.41		0.010		mg/L		02/13/14 14:48	02/17/14 00:15	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	120		5.0		mg/L			02/18/14 13:36	5
Nitrate as N	0.050	U	0.050		mg/L			02/13/14 21:26	1
Sulfate	560		100		mg/L			02/18/14 17:39	20
Total Organic Carbon	3.5		1.0		mg/L			02/20/14 01:08	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	370		5.0		mg/L			02/23/14 18:12	1
Carbon Dioxide, Free	31		5.0		mg/L			02/23/14 18:12	1

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TestAmerica Savannah

Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98575-1
SDG: KPS111

Client Sample ID: ESL-MW-D1-F(0.2)-0214

Lab Sample ID: 680-98575-5

Date Collected: 02/12/14 11:05

Matrix: Water

Date Received: 02/13/14 09:40

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	16		0.050		mg/L		02/13/14 14:48	02/17/14 00:19	1
Manganese, Dissolved	0.40		0.010		mg/L		02/13/14 14:48	02/17/14 00:19	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Oil Fac
Dissolved Organic Carbon	3.5	H J	1.0		mg/L			02/14/14 16:35	1

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TestAmerica Savannah

Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98575-1
SDG: KPS111

Client Sample ID: 1Q14 LTM Trip Blank #6

Lab Sample ID: 680-98575-6

Date Collected: 02/12/14 00:00

Matrix: Water

Date Received: 02/13/14 09:40

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			02/21/14 15:17	1
Chlorobenzene	1.0	U	1.0		ug/L			02/21/14 15:17	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			02/21/14 15:17	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			02/21/14 15:17	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			02/21/14 15:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		70 - 130		02/21/14 15:17	1
Dibromofluoromethane	97		70 - 130		02/21/14 15:17	1
Toluene-d8 (Surr)	99		70 - 130		02/21/14 15:17	1

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TestAmerica Savannah

Surrogate Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98575-1
SDG: KPS111

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (70-130)	DBFM (70-130)	TOL (70-130)
680-98575-1	CPA-MW-2D-0214	95	96	92
680-98575-3	CPA-MW-2D-0214-AD	95	94	92
680-98575-4	ESL-MW-D1-0214	97	92	92
680-98575-6	1Q14 LTM Trip Blank #6	99	97	99
LCS 680-316403/4	Lab Control Sample	97	91	97
LCS 680-316608/5	Lab Control Sample	112	92	108
LCS 680-316609/4	Lab Control Sample	101	90	94
LCSD 680-316403/5	Lab Control Sample Dup	99	93	101
LCSD 680-316608/9	Lab Control Sample Dup	99	89	101
LCSD 680-316609/5	Lab Control Sample Dup	107	90	101
MB 680-316403/8	Method Blank	94	100	88
MB 680-316608/7	Method Blank	98	97	97
MB 680-316609/8	Method Blank	97	97	89

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (38-130)	2FP (25-130)	NBZ (39-130)	PHL (25-130)	TPH (10-143)	TBP (31-141)
680-98575-1	CPA-MW-2D-0214	0 D	0 D	0 D	0 D	0 D	0 D
680-98575-3	CPA-MW-2D-0214-AD	0 D	0 D	0 D	0 D	0 D	0 D
LCS 680-315638/7-A	Lab Control Sample	74	70	80	70	81	82
LCSD 680-315638/8-A	Lab Control Sample Dup	75	74	83	76	79	83
MB 680-315638/6-A	Method Blank	76	76	86	78	90	84

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPH = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

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TestAmerica Savannah

QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98575-1
SDG: KPS111

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 680-316403/8
Matrix: Water
Analysis Batch: 316403

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			02/20/14 12:52	1
Chlorobenzene	1.0	U	1.0		ug/L			02/20/14 12:52	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			02/20/14 12:52	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			02/20/14 12:52	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			02/20/14 12:52	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	94		70 - 130		02/20/14 12:52	1
Dibromofluoromethane	100		70 - 130		02/20/14 12:52	1
Toluene-d8 (Surr)	88		70 - 130		02/20/14 12:52	1

Lab Sample ID: LCS 680-316403/4
Matrix: Water
Analysis Batch: 316403

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	51.8		ug/L		104	74 - 123
Chlorobenzene	50.0	46.7		ug/L		93	79 - 120
1,2-Dichlorobenzene	50.0	46.3		ug/L		93	77 - 124
1,3-Dichlorobenzene	50.0	47.4		ug/L		95	79 - 123
1,4-Dichlorobenzene	50.0	46.5		ug/L		93	76 - 124

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	97		70 - 130
Dibromofluoromethane	91		70 - 130
Toluene-d8 (Surr)	97		70 - 130

Lab Sample ID: LCSD 680-316403/5
Matrix: Water
Analysis Batch: 316403

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	50.0	53.6		ug/L		107	74 - 123	3	30
Chlorobenzene	50.0	47.9		ug/L		96	79 - 120	2	30
1,2-Dichlorobenzene	50.0	46.9		ug/L		94	77 - 124	1	30
1,3-Dichlorobenzene	50.0	48.2		ug/L		96	79 - 123	2	30
1,4-Dichlorobenzene	50.0	47.4		ug/L		95	76 - 124	2	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene	99		70 - 130
Dibromofluoromethane	93		70 - 130
Toluene-d8 (Surr)	101		70 - 130

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QC Sample Results

Client: Solutia Inc.
Project/Site: WGG Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98575-1
SDG: KPS111

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 680-316608/7

Matrix: Water

Analysis Batch: 316608

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			02/21/14 11:55	1
Chlorobenzene	1.0	U	1.0		ug/L			02/21/14 11:55	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			02/21/14 11:55	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			02/21/14 11:55	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			02/21/14 11:55	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98		70 - 130		02/21/14 11:55	1
Dibromofluoromethane	97		70 - 130		02/21/14 11:55	1
Toluene-d8 (Surr)	97		70 - 130		02/21/14 11:55	1

Lab Sample ID: LCS 680-316608/5

Matrix: Water

Analysis Batch: 316608

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	53.3		ug/L		107	74 - 123
Chlorobenzene	50.0	51.2		ug/L		102	79 - 120
1,2-Dichlorobenzene	50.0	55.5		ug/L		111	77 - 124
1,3-Dichlorobenzene	50.0	56.6		ug/L		113	79 - 123
1,4-Dichlorobenzene	50.0	54.1		ug/L		108	76 - 124

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	112		70 - 130
Dibromofluoromethane	92		70 - 130
Toluene-d8 (Surr)	108		70 - 130

Lab Sample ID: LCSD 680-316608/9

Matrix: Water

Analysis Batch: 316608

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	50.0	50.9		ug/L		102	74 - 123	5	30
Chlorobenzene	50.0	46.4		ug/L		93	79 - 120	10	30
1,2-Dichlorobenzene	50.0	48.3		ug/L		97	77 - 124	14	30
1,3-Dichlorobenzene	50.0	49.2		ug/L		98	79 - 123	14	30
1,4-Dichlorobenzene	50.0	48.2		ug/L		96	76 - 124	12	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene	99		70 - 130
Dibromofluoromethane	89		70 - 130
Toluene-d8 (Surr)	101		70 - 130

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QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98575-1
SDG: KPS111

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 680-316609/8
Matrix: Water
Analysis Batch: 316609

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			02/21/14 12:38	1
Chlorobenzene	1.0	U	1.0		ug/L			02/21/14 12:38	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			02/21/14 12:38	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			02/21/14 12:38	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			02/21/14 12:38	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	97		70 - 130		02/21/14 12:38	1
Dibromofluoromethane	97		70 - 130		02/21/14 12:38	1
Toluene-d8 (Surr)	89		70 - 130		02/21/14 12:38	1

Lab Sample ID: LCS 680-316609/4
Matrix: Water
Analysis Batch: 316609

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.
	Added	Result	Qualifier				Limits
Benzene	50.0	50.0		ug/L		100	74 - 123
Chlorobenzene	50.0	47.6		ug/L		95	79 - 120
1,2-Dichlorobenzene	50.0	48.2		ug/L		96	77 - 124
1,3-Dichlorobenzene	50.0	50.6		ug/L		101	79 - 123
1,4-Dichlorobenzene	50.0	48.5		ug/L		97	76 - 124

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	101		70 - 130
Dibromofluoromethane	90		70 - 130
Toluene-d8 (Surr)	94		70 - 130

Lab Sample ID: LCSD 680-316609/5
Matrix: Water
Analysis Batch: 316609

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike	LCSD	LCSD	Unit	D	%Rec	%Rec.	RPD
	Added	Result	Qualifier				Limits	Limit
Benzene	50.0	52.8		ug/L		106	74 - 123	6 30
Chlorobenzene	50.0	48.5		ug/L		97	79 - 120	2 30
1,2-Dichlorobenzene	50.0	50.8		ug/L		102	77 - 124	5 30
1,3-Dichlorobenzene	50.0	52.0		ug/L		104	79 - 123	3 30
1,4-Dichlorobenzene	50.0	50.7		ug/L		101	76 - 124	4 30

Surrogate	LCSD	LCSD	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	107		70 - 130
Dibromofluoromethane	90		70 - 130
Toluene-d8 (Surr)	101		70 - 130

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QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98575-1
SDG: KPS111

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 680-315638/6-A
Matrix: Water
Analysis Batch: 315832

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 315638

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorophenol	10	U	10		ug/L		02/14/14 16:00	02/17/14 12:05	1
1,2,4-Trichlorobenzene	10	U	10		ug/L		02/14/14 16:00	02/17/14 12:05	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	76		38 - 130	02/14/14 16:00	02/17/14 12:05	1
2-Fluorophenol	76		25 - 130	02/14/14 16:00	02/17/14 12:05	1
Nitrobenzene-d5	86		39 - 130	02/14/14 16:00	02/17/14 12:05	1
Phenol-d5	78		25 - 130	02/14/14 16:00	02/17/14 12:05	1
Terphenyl-d14	90		10 - 143	02/14/14 16:00	02/17/14 12:05	1
2,4,6-Tribromophenol	84		31 - 141	02/14/14 16:00	02/17/14 12:05	1

Lab Sample ID: LCS 680-315638/7-A
Matrix: Water
Analysis Batch: 315832

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 315638

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
4-Chloroaniline	100	14.1	J *	ug/L		14	42 - 130
2-Chlorophenol	100	73.3		ug/L		73	57 - 130
1,4-Dioxane	100	65.1		ug/L		65	35 - 130
1,2,4-Trichlorobenzene	100	54.8		ug/L		55	42 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	74		38 - 130
2-Fluorophenol	70		25 - 130
Nitrobenzene-d5	80		39 - 130
Phenol-d5	70		25 - 130
Terphenyl-d14	81		10 - 143
2,4,6-Tribromophenol	82		31 - 141

Lab Sample ID: LCSD 680-315638/8-A
Matrix: Water
Analysis Batch: 315832

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 315638

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
4-Chloroaniline	100	12.3	J *	ug/L		12	42 - 130	14	50
2-Chlorophenol	100	75.2		ug/L		75	57 - 130	3	50
1,4-Dioxane	100	62.8		ug/L		63	35 - 130	4	50
1,2,4-Trichlorobenzene	100	56.5		ug/L		56	42 - 130	3	50

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl	75		38 - 130
2-Fluorophenol	74		25 - 130
Nitrobenzene-d5	83		39 - 130
Phenol-d5	76		25 - 130
Terphenyl-d14	79		10 - 143
2,4,6-Tribromophenol	83		31 - 141

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QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98575-1
SDG: KPS111

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 680-317026/8
Matrix: Water
Analysis Batch: 317026

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	1.1	U			1.1		ug/L			02/25/14 11:41	1
Ethylene	1.0	U			1.0		ug/L			02/25/14 11:41	1
Methane	0.58	U			0.58		ug/L			02/25/14 11:41	1
Methane (TCD)	390	U			390		ug/L			02/25/14 11:41	1

Lab Sample ID: LCS 680-317026/4
Matrix: Water
Analysis Batch: 317026

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike	LCS	LCS	Result	Qualifier	Unit	D	%Rec	%Rec.	Limits
Ethane	288			264		ug/L		91		75 - 125
Ethylene	269			254		ug/L		94		75 - 125
Methane	154			131		ug/L		85		75 - 125

Lab Sample ID: LCS 680-317026/5
Matrix: Water
Analysis Batch: 317026

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike	LCS	LCS	Result	Qualifier	Unit	D	%Rec	%Rec.	Limits
Methane (TCD)	1920			1480		ug/L		77		75 - 125

Lab Sample ID: LCSD 680-317026/6
Matrix: Water
Analysis Batch: 317026

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike	LCSD	LCSD	Result	Qualifier	Unit	D	%Rec	%Rec.	Limits	RPD	RPD	Limit
Methane (TCD)	1920			1870		ug/L		97		75 - 125	24		30

Lab Sample ID: LCSD 680-317026/7
Matrix: Water
Analysis Batch: 317026

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike	LCSD	LCSD	Result	Qualifier	Unit	D	%Rec	%Rec.	Limits	RPD	RPD	Limit
Ethane	288			275		ug/L		95		75 - 125	4		30
Ethylene	269			260		ug/L		97		75 - 125	2		30
Methane	154			137		ug/L		89		75 - 125	4		30

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 680-315521/1-A
Matrix: Water
Analysis Batch: 315879

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 315521

Analyte	MB	MB	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.050	U			0.050		mg/L		02/13/14 14:48	02/16/14 23:13	1
Iron, Dissolved	0.050	U			0.050		mg/L		02/13/14 14:48	02/16/14 23:13	1
Manganese	0.010	U			0.010		mg/L		02/13/14 14:48	02/16/14 23:13	1
Manganese, Dissolved	0.010	U			0.010		mg/L		02/13/14 14:48	02/16/14 23:13	1

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QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98575-1
SDG: KPS111

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LCS 680-315521/2-A
Matrix: Water
Analysis Batch: 315879

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 315521

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	5.00	5.31		mg/L		106	75 - 125
Iron, Dissolved	5.00	5.31		mg/L		106	75 - 125
Manganese	0.500	0.516		mg/L		103	75 - 125
Manganese, Dissolved	0.500	0.516		mg/L		103	75 - 125

Method: 310.1 - Alkalinity

Lab Sample ID: MB 680-316851/5
Matrix: Water
Analysis Batch: 316851

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	5.0	U	5.0		mg/L			02/23/14 16:44	1
Carbon Dioxide, Free	5.0	U	5.0		mg/L			02/23/14 16:44	1

Lab Sample ID: LCS 680-316851/6
Matrix: Water
Analysis Batch: 316851

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	250	209		mg/L		84	80 - 120

Lab Sample ID: LCSD 680-316851/32
Matrix: Water
Analysis Batch: 316851

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity	250	215		mg/L		86	80 - 120	3	30

Method: 325.2 - Chloride

Lab Sample ID: MB 680-316243/21
Matrix: Water
Analysis Batch: 316243

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.0	U	1.0		mg/L			02/18/14 12:52	1

Lab Sample ID: LCS 680-316243/20
Matrix: Water
Analysis Batch: 316243

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	25.0	25.8		mg/L		103	85 - 115

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QC Sample Results

Client: Solutia Inc.
Project/Site: W GK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98575-1
SDG: KPS111

Method: 325.2 - Chloride (Continued)

Lab Sample ID: 680-98575-1 MS
Matrix: Water
Analysis Batch: 316243

Client Sample ID: CPA-MW-2D-0214
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	59		25.0	78.7	F1	mg/L		80	85 - 115

Lab Sample ID: 680-98575-1 MSD
Matrix: Water
Analysis Batch: 316243

Client Sample ID: CPA-MW-2D-0214
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	59		25.0	79.0	F1	mg/L		81	85 - 115	0	30

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 680-315605/13
Matrix: Water
Analysis Batch: 315605

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0.050	U	0.050		mg/L			02/13/14 21:01	1

Lab Sample ID: LCS 680-315605/14
Matrix: Water
Analysis Batch: 315605

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	0.500	0.547		mg/L		109	90 - 110
Nitrate Nitrite as N	1.00	1.04		mg/L		104	90 - 110
Nitrite as N	0.500	0.496		mg/L		99	90 - 110

Lab Sample ID: LCSD 680-315605/34
Matrix: Water
Analysis Batch: 315605

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate as N	0.500	0.551		mg/L		110	90 - 110	1	10
Nitrate Nitrite as N	1.00	1.05		mg/L		105	90 - 110	0	10
Nitrite as N	0.500	0.496		mg/L		99	90 - 110	0	10

Method: 375.4 - Sulfate

Lab Sample ID: MB 680-316246/23
Matrix: Water
Analysis Batch: 316246

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	5.0	U	5.0		mg/L			02/18/14 17:15	1

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MM

QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98575-1
SDG: KPS111

Method: 375.4 - Sulfate (Continued)

Lab Sample ID: LCS 680-316246/6
Matrix: Water
Analysis Batch: 316246

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	19.9		mg/L		100	75 - 125

Method: 415.1 - DOC

Lab Sample ID: MB 680-315813/6
Matrix: Water
Analysis Batch: 315813

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.0	U	1.0		mg/L			02/14/14 15:36	1

Lab Sample ID: LCS 680-315813/5
Matrix: Water
Analysis Batch: 315813

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	20.0	20.6		mg/L		103	80 - 120

Lab Sample ID: 680-98575-2 MS
Matrix: Water
Analysis Batch: 315813

Client Sample ID: CPA-MW-2D-F(0.2)-0214
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	7.3	H	20.0	27.1		mg/L		99	80 - 120

Lab Sample ID: 680-98575-2 MSD
Matrix: Water
Analysis Batch: 315813

Client Sample ID: CPA-MW-2D-F(0.2)-0214
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Dissolved Organic Carbon	7.3	H	20.0	26.5		mg/L		96	80 - 120	2	20

Method: 415.1 - TOC

Lab Sample ID: MB 680-316597/2
Matrix: Water
Analysis Batch: 316597

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1.0	U	1.0		mg/L			02/19/14 18:14	1

Lab Sample ID: LCS 680-316597/5
Matrix: Water
Analysis Batch: 316597

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	20.0	20.8		mg/L		104	80 - 120

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QC Association Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98575-1
SDG: KPS111

GC/MS VOA

Analysis Batch: 316403

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98575-1	CPA-MW-2D-0214	Total/NA	Water	8260B	
LCS 680-316403/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-316403/5	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-316403/8	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 316608

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98575-6	1Q14 LTM Trip Blank #6	Total/NA	Water	8260B	
LCS 680-316608/5	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-316608/9	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-316608/7	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 316609

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98575-3	CPA-MW-2D-0214-AD	Total/NA	Water	8260B	
680-98575-4	ESL-MW-D1-0214	Total/NA	Water	8260B	
LCS 680-316609/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-316609/5	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-316609/8	Method Blank	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 315638

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98575-1	CPA-MW-2D-0214	Total/NA	Water	3520C	
680-98575-3	CPA-MW-2D-0214-AD	Total/NA	Water	3520C	
LCS 680-315638/7-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 680-315638/8-A	Lab Control Sample Dup	Total/NA	Water	3520C	
MB 680-315638/6-A	Method Blank	Total/NA	Water	3520C	

Analysis Batch: 315832

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98575-1	CPA-MW-2D-0214	Total/NA	Water	8270D	315638
680-98575-3	CPA-MW-2D-0214-AD	Total/NA	Water	8270D	315638
LCS 680-315638/7-A	Lab Control Sample	Total/NA	Water	8270D	315638
LCSD 680-315638/8-A	Lab Control Sample Dup	Total/NA	Water	8270D	315638
MB 680-315638/6-A	Method Blank	Total/NA	Water	8270D	315638

GC VOA

Analysis Batch: 317026

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98575-1	CPA-MW-2D-0214	Total/NA	Water	RSK-175	
680-98575-4	ESL-MW-D1-0214	Total/NA	Water	RSK-175	
LCS 680-317026/4	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 680-317026/5	Lab Control Sample Dup	Total/NA	Water	RSK-175	
LCSD 680-317026/6	Lab Control Sample Dup	Total/NA	Water	RSK-175	
LCSD 680-317026/7	Lab Control Sample Dup	Total/NA	Water	RSK-175	
MB 680-317026/8	Method Blank	Total/NA	Water	RSK-175	

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QC Association Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98575-1
SDG: KPS111

Metals

Prep Batch: 315521

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98575-1	CPA-MW-2D-0214	Total Recoverable	Water	3005A	
680-98575-2	CPA-MW-2D-F(0.2)-0214	Dissolved	Water	3005A	
680-98575-4	ESL-MW-D1-0214	Total Recoverable	Water	3005A	
680-98575-5	ESL-MW-D1-F(0.2)-0214	Dissolved	Water	3005A	
LCS 680-315521/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 680-315521/1-A	Method Blank	Total Recoverable	Water	3005A	

Analysis Batch: 315879

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98575-1	CPA-MW-2D-0214	Total Recoverable	Water	6010C	315521
680-98575-2	CPA-MW-2D-F(0.2)-0214	Dissolved	Water	6010C	315521
680-98575-4	ESL-MW-D1-0214	Total Recoverable	Water	6010C	315521
680-98575-5	ESL-MW-D1-F(0.2)-0214	Dissolved	Water	6010C	315521
LCS 680-315521/2-A	Lab Control Sample	Total Recoverable	Water	6010C	315521
MB 680-315521/1-A	Method Blank	Total Recoverable	Water	6010C	315521

General Chemistry

Analysis Batch: 315605

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98575-1	CPA-MW-2D-0214	Total/NA	Water	353.2	
680-98575-4	ESL-MW-D1-0214	Total/NA	Water	353.2	
LCS 680-315605/14	Lab Control Sample	Total/NA	Water	353.2	
LCSD 680-315605/34	Lab Control Sample Dup	Total/NA	Water	353.2	
MB 680-315605/13	Method Blank	Total/NA	Water	353.2	

Analysis Batch: 315813

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98575-2	CPA-MW-2D-F(0.2)-0214	Dissolved	Water	415.1	
680-98575-2 MS	CPA-MW-2D-F(0.2)-0214	Dissolved	Water	415.1	
680-98575-2 MSD	CPA-MW-2D-F(0.2)-0214	Dissolved	Water	415.1	
680-98575-5	ESL-MW-D1-F(0.2)-0214	Dissolved	Water	415.1	
LCS 680-315813/5	Lab Control Sample	Dissolved	Water	415.1	
MB 680-315813/6	Method Blank	Dissolved	Water	415.1	

Analysis Batch: 316243

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98575-1	CPA-MW-2D-0214	Total/NA	Water	325.2	
680-98575-1 MS	CPA-MW-2D-0214	Total/NA	Water	325.2	
680-98575-1 MSD	CPA-MW-2D-0214	Total/NA	Water	325.2	
680-98575-4	ESL-MW-D1-0214	Total/NA	Water	325.2	
LCS 680-316243/20	Lab Control Sample	Total/NA	Water	325.2	
MB 680-316243/21	Method Blank	Total/NA	Water	325.2	

Analysis Batch: 316246

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98575-1	CPA-MW-2D-0214	Total/NA	Water	375.4	
680-98575-4	ESL-MW-D1-0214	Total/NA	Water	375.4	
LCS 680-316246/6	Lab Control Sample	Total/NA	Water	375.4	
MB 680-316246/23	Method Blank	Total/NA	Water	375.4	

TestAmerica Savannah

QC Association Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98575-1
SDG: KPS111

General Chemistry (Continued)

Analysis Batch: 316597

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98575-1	CPA-MW-2D-0214	Total/NA	Water	415.1	
680-98575-4	ESL-MW-D1-0214	Total/NA	Water	415.1	
LCS 680-316597/5	Lab Control Sample	Total/NA	Water	415.1	
MB 680-316597/2	Method Blank	Total/NA	Water	415.1	

Analysis Batch: 316851

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98575-1	CPA-MW-2D-0214	Total/NA	Water	310.1	
680-98575-4	ESL-MW-D1-0214	Total/NA	Water	310.1	
LCS 680-316851/6	Lab Control Sample	Total/NA	Water	310.1	
LCSD 680-316851/32	Lab Control Sample Dup	Total/NA	Water	310.1	
MB 680-316851/5	Method Blank	Total/NA	Water	310.1	

TestAmerica Savannah

MAR 13 2014

Lab Chronicle

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98575-1
SDG: KPS111

Client Sample ID: CPA-MW-2D-0214

Lab Sample ID: 680-98575-1

Date Collected: 02/12/14 15:10

Matrix: Water

Date Received: 02/13/14 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		250	316403	02/20/14 19:59	MMT	TAL SAV
Total/NA	Prep	3520C			315638	02/14/14 16:00	RBS	TAL SAV
Total/NA	Analysis	8270D		10	315832	02/17/14 14:56	SMC	TAL SAV
Total/NA	Analysis	RSK-175		1	317026	02/25/14 12:38	TAR	TAL SAV
Total Recoverable	Prep	3005A			315521	02/13/14 14:48	BJB	TAL SAV
Total Recoverable	Analysis	6010C		1	315879	02/17/14 00:05	BCB	TAL SAV
Total/NA	Analysis	353.2		1	315605	02/13/14 21:23	GRX	TAL SAV
Total/NA	Analysis	325.2		2	316243	02/18/14 12:41	JME	TAL SAV
Total/NA	Analysis	375.4		2	316246	02/18/14 17:17	JME	TAL SAV
Total/NA	Analysis	415.1		1	316597	02/20/14 00:52	CMP	TAL SAV
Total/NA	Analysis	310.1		1	316851	02/23/14 18:04	LBH	TAL SAV

Client Sample ID: CPA-MW-2D-F(0.2)-0214

Lab Sample ID: 680-98575-2

Date Collected: 02/12/14 15:10

Matrix: Water

Date Received: 02/13/14 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			315521	02/13/14 14:48	BJB	TAL SAV
Dissolved	Analysis	6010C		1	315879	02/17/14 00:10	BCB	TAL SAV
Dissolved	Analysis	415.1		1	315813	02/14/14 15:53	CMP	TAL SAV

Client Sample ID: CPA-MW-2D-0214-AD

Lab Sample ID: 680-98575-3

Date Collected: 02/12/14 15:10

Matrix: Water

Date Received: 02/13/14 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		250	316609	02/21/14 14:33	MMT	TAL SAV
Total/NA	Prep	3520C			315638	02/14/14 16:00	RBS	TAL SAV
Total/NA	Analysis	8270D		10	315832	02/17/14 15:20	SMC	TAL SAV

Client Sample ID: ESL-MW-D1-0214

Lab Sample ID: 680-98575-4

Date Collected: 02/12/14 11:05

Matrix: Water

Date Received: 02/13/14 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		25	316609	02/21/14 14:05	MMT	TAL SAV
Total/NA	Analysis	RSK-175		1	317026	02/25/14 12:51	TAR	TAL SAV
Total Recoverable	Prep	3005A			315521	02/13/14 14:48	BJB	TAL SAV
Total Recoverable	Analysis	6010C		1	315879	02/17/14 00:15	BCB	TAL SAV
Total/NA	Analysis	353.2		1	315605	02/13/14 21:26	GRX	TAL SAV
Total/NA	Analysis	325.2		5	316243	02/18/14 13:36	JME	TAL SAV

TestAmerica Savannah

Lab Chronicle

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98575-1
SDG: KPS111

Client Sample ID: ESL-MW-D1-0214

Lab Sample ID: 680-98575-4

Date Collected: 02/12/14 11:05

Matrix: Water

Date Received: 02/13/14 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	375.4		20	316246	02/18/14 17:39	JME	TAL SAV
Total/NA	Analysis	415.1		1	316597	02/20/14 01:08	CMP	TAL SAV
Total/NA	Analysis	310.1		1	316851	02/23/14 18:12	LBH	TAL SAV

Client Sample ID: ESL-MW-D1-F(0.2)-0214

Lab Sample ID: 680-98575-5

Date Collected: 02/12/14 11:05

Matrix: Water

Date Received: 02/13/14 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			315521	02/13/14 14:48	BJB	TAL SAV
Dissolved	Analysis	6010C		1	315879	02/17/14 00:19	BCB	TAL SAV
Dissolved	Analysis	415.1		1	315813	02/14/14 16:35	CMP	TAL SAV

Client Sample ID: 1Q14 LTM Trip Blank #6

Lab Sample ID: 680-98575-6

Date Collected: 02/12/14 00:00

Matrix: Water

Date Received: 02/13/14 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	316608	02/21/14 15:17	MMT	TAL SAV

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

TestAmerica Savannah

MAR 13 2014

Savannah
5102 LaRoche Avenue

Savannah, GA 31404
phone 912.354.7858 fax 912.352.0165

Chain of Custody Record

TestAmerica

TestAmerica Laboratories, Inc.

Client Contact		Project Manager: Bob Billman		Site Contact: Michael Corbett		COC No:	
URS Corporation		Tel/Fax: (314) 743-4108		Lab Contact: Michele Kersey		1 of 1 COCs	
1001 Highlands Plaza Drive West, Suite 300		Analysis Turnaround Time					
St. Louis, MO 63110		Calendar (C) or Work Days (W) <u>C</u>				21563600.00001	
(314) 429-0100 Phone		TAT if different from Below <u>Standard</u>					
(314) 429-0462 FAX		<input type="checkbox"/> 2 weeks					
Project Name: 1Q14 LTM GW Sampling		<input type="checkbox"/> 1 week					
Site: Solutia WG Krummrich Facility		<input type="checkbox"/> 2 days					
P.O.#		<input type="checkbox"/> 1 day					
Sample Identification		Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Sample Specific Notes:
CPA-MW-2D -0214 ✓		2/12/14	1510	G	Water	16	
CPA-MW-2D F(0.2)-0214 ✓			1510	G	Water	2	
CPA-MW-2D-0214-AD ✓			1510	G		5	
ESL-MW-D1-0214 ✓			1105	G		14	
ESL-MW-D1-F(0.2)-0214 ✓			1105	G		2	
IQ14 LTM Trip Blank # 6 ✓		2/12/14			Water	2	
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other							
Possible Hazard Identification							
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Ion B <input type="checkbox"/> Other							
Special Instructions/QC Requirements & Comments:							
Relinquished by: <u>Indy</u>		Company: URS		Date/Time: 2/12/14 1600		Received by: <u>Cliff Banda</u>	
Relinquished by:		Company:		Date/Time:		Received by:	
Relinquished by:		Company:		Date/Time:		Received by:	



680-98575 Chain of Custody

20°C

Login Sample Receipt Checklist

Client: Solutia Inc.

Job Number: 680-98575-1

SDG Number: KPS111

Login Number: 98575

List Source: TestAmerica Savannah

List Number: 1

Creator: Banda, Christy S

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Certification Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98575-1
SDG: KPS111

Laboratory: TestAmerica Savannah

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
	AFCEE		SAVLAB	
A2LA	DoD ELAP		399.01	02-28-15
A2LA	ISO/IEC 17025		399.01	02-28-15
Alabama	State Program	4	41450	06-30-14
Arkansas DEQ	State Program	6	88-0692	01-31-15
California	NELAP	9	3217CA	07-31-14
Colorado	State Program	8	N/A	12-31-14
Connecticut	State Program	1	PH-0161	03-31-15
Florida	NELAP	4	E87052	06-30-14
GA Dept. of Agriculture	State Program	4	N/A	06-30-14
Georgia	State Program	4	N/A	06-30-14
Georgia	State Program	4	803	06-30-14
Guam	State Program	9	09-005r	04-17-14 *
Hawaii	State Program	9	N/A	06-30-14
Illinois	NELAP	5	200022	11-30-14
Indiana	State Program	5	N/A	06-30-14
Iowa	State Program	7	353	07-01-15
Kentucky (DW)	State Program	4	90084	12-31-14
Kentucky (UST)	State Program	4	18	06-30-14
Louisiana	NELAP	6	LA100015	12-31-14
Maine	State Program	1	GA00006	08-16-14
Maryland	State Program	3	250	12-31-14
Massachusetts	State Program	1	M-GA006	06-30-14
Michigan	State Program	5	9925	06-30-14
Mississippi	State Program	4	N/A	06-30-14
Montana	State Program	8	CERT0081	01-01-15
Nebraska	State Program	7	TestAmerica-Savannah	06-30-14
New Jersey	NELAP	2	GA769	06-30-14
New Mexico	State Program	6	N/A	06-30-14
New York	NELAP	2	10842	03-31-14 *
North Carolina DENR	State Program	4	269	12-31-14
North Carolina DHHS	State Program	4	13701	07-31-14
Oklahoma	State Program	6	9984	08-31-14
Pennsylvania	NELAP	3	68-00474	06-30-14
Puerto Rico	State Program	2	GA00006	12-31-14
South Carolina	State Program	4	98001	06-30-14
Tennessee	State Program	4	TN02961	06-30-14
Texas	NELAP	6	T104704185-08-TX	11-30-14
USDA	Federal		SAV 3-04	04-07-14 *
Virginia	NELAP	3	460161	06-14-14
Washington	State Program	10	C1794	06-10-14
West Virginia DEP	State Program	3	94	06-30-14
West Virginia DHHR	State Program	3	9950C	12-31-14
Wisconsin	State Program	5	999819810	08-31-14
Wyoming	State Program	8	8TMS-L	06-30-14

* Expired certification is currently pending renewal and is considered valid.

TestAmerica Savannah

MAR 13 2014

Solutia Krummrich Data Review WGK LTM 1Q14

Laboratory SDG: KPS112

Data Reviewer: Melissa Mansker

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 3/10/2014

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2008. USEPA National Functional Guidelines for Superfund Inorganic Data Review 2010

Work Plan: Revised Long-Term Monitoring Program (LTMP) Work Plan (Solutia 2009)

Sample Identification	
BSA-MW-1S-0214	BSA-MW-1S-F(0.2)-0214
BSA-MW-1S-0214-EB	1Q14 LTM Trip Blank #7

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated sample BSA-MW-1S-0214 and equipment blank BSA-MW-1S-0214-EB were re-extracted for SVOCs outside hold time for extraction. LCS/LCSD recoveries were outside evaluation criteria for 4-chloroaniline and nitrate. The SVOC surrogate recovery for 2-fluorobiphenyl was outside evaluation criteria in the confirmation run of sample BSA-MW-1S-0214. Several VOC internal standards were outside evaluation criteria in sample 1Q14 LTM Trip Blank #7. Samples were diluted due to high levels of benzene and chloride. Instrument calibration was outside evaluation criteria for nitrate in samples BSA-MW-1S-0214. Although not indicated in the laboratory case narrative, VOCs were detected in the equipment blank. These issues are addressed further in the appropriate sections below.

The cooler receipt form indicated that one of three coolers was received by the laboratory at a temperature of 1.8°C which is outside the 4°C ± 2°C criteria. The samples were received in good condition; therefore no qualification of data was required. The cooler receipt form indicated that a pH > 2 for dissolved organic carbon in sample BSA-MW-1S-F(0.2)-0214; please see section 11.0 of this review for qualifications.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

No, sample BSA-MW-1S-0214 and equipment blank BSA-MW-1S-0214-EB were re-extracted for SVOCs three days outside the seven day hold time for extraction due to

LCS recoveries outside evaluation criteria in the original analyses/extractions. SVOC data from the original extraction and analysis of BSA-MW-1S-0214 was used to qualify data. No qualification of SVOC data was required based on holding time criteria.

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

Yes

Blank ID	Parameter	Analyte	Concentration/Amount
BSA-MW-1S-0214-EB	VOCs	Chlorobenzene	3.2 ug/L
BSA-MW-1S-0214-EB	VOCs	1,4-Dichlorobenzene	3.4 ug/L

Analytical data that were reported non-detect or at concentrations greater than five times (5X) the associated blank concentration did not required qualification. No qualification of data was required.

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD/ RPD Criteria
LCS/LCSD 680-316409/5/6-A	SVOCs	4-Chloroaniline	4/60	173	42-130/50
LCS 680-315764/14	General chemistry	Nitrate	113	NA	90-110

Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. The compound 4-chloroaniline is not reported for associated samples. No qualification of data was required.

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

No

Sample ID	Parameter	Surrogate	Recovery	Criteria
BSA-MW-1S-0214 Run#2	SVOCs	2-Fluorobiphenyl	37	38-130

SVOC data from the original extraction and analysis was used to qualify data. No qualification of SVOC data was required based on surrogate recoveries outside evaluation criteria.

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples collected as part of this SDG?

No

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

No

Sample ID	Parameter	Analyte	IS Area Recovery	IS Criteria
1Q14 LTM Trip Blank #7	VOCs	1,2-Dichloroethane-d ₄	60712	148828-595310
1Q14 LTM Trip Blank #7	VOCs	1,4-Difluorobenzene	129756	336021-1344082
1Q14 LTM Trip Blank #7	VOCs	Chlorobenzene-d ₅	75927	183087-732346

Sample 1Q14 LTM Trip Blank #7 is a quality control sample and is not qualified. No qualification of data was required.

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

10.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

11.0 Additional Qualifications

Were additional qualifications applied?

Yes, the following sample is qualified, as summarized below, due to pH > 2.

Sample ID	Parameter	Analyte	Qualification
BSA-MW-1S-F(0.2)-0214	General chemistry	Dissolved organic carbon	J

Additionally, the following sample is qualified, as summarized below, due to instrument calibration outside evaluation criteria for nitrate.

Sample ID	Parameter	Analyte	Qualification
BSA-MW-1S-0214	General chemistry	Nitrate	UJ

SDG KPS112

Results of Samples from Monitoring Well:

BSA-MW-1S

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

TestAmerica Job ID: 680-98624-1
TestAmerica Sample Delivery Group: KPS112
Client Project/Site: WGK Long Term Monitoring - 1Q14

For:
Solutia Inc.
575 Maryville Centre Dr.
Saint Louis, Missouri 63141

Attn: Mr. Jerry Rinaldi

Michele Kersey

Authorized for release by:
2/28/2014 12:27:43 PM

Michele Kersey, Project Manager I
(912)354-7858
michele.kersey@testamericainc.com

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Reviewed on
MAR 10 2014
MM

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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MAR 10 2014 *[Signature]*

Case Narrative

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98624-1
SDG: KPS112

Job ID: 680-98624-1

Laboratory: TestAmerica Savannah

Narrative

CASE NARRATIVE

Client: Solutia Inc.

Project: WGK Long Term Monitoring - 1Q14

Report Number: 680-98624-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT

The samples were received on 2/14/2014 10:07 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 1.8° C, 2.8° C and 4.4° C.

Except:

Method(s) 415.1, SM 5310B: The following sample(s) were collected in properly preserved vials for analysis of volatile organic compounds (VOCs). However, the pH was outside the required criteria when verified by the laboratory, and corrective action was not possible: BSA-MW-01S-F(0.2)-0214 (680-98624-2).

VOLATILE ORGANIC COMPOUNDS (GC-MS)

Samples BSA-MW-01S-0214 (680-98624-1), BSA-MW-01S-0214-EB (680-98624-3) and 1Q14 LTM Trip Blank #7 (680-98624-4) were analyzed for Volatile Organic Compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 02/21/2014 and 02/24/2014.

Sample BSA-MW-01S-0214 (680-98624-1){10000X} required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No difficulties were encountered during the volatiles analysis.

All quality control parameters were within the acceptance limits.

SEMIVOLATILE ORGANIC COMPOUNDS (AQUEOUS)

Samples BSA-MW-01S-0214 (680-98624-1) and BSA-MW-01S-0214-EB (680-98624-3) were analyzed for Semivolatile Organic Compounds (Aqueous) in accordance with EPA SW-846 Method 8270D. The samples were prepared on 02/20/2014 and 02/24/2014 and analyzed on 02/21/2014 and 02/26/2014.

The following sample(s) contained an allowable number of surrogate compounds outside limits: BSA-MW-01S-0214 (680-98624-1). These results have been reported and qualified.

The laboratory control sample (LCS) for batch 316409 recovered outside control limits for the following analytes: 4-Chloroaniline. The associated sample(s) was re-prepared and/or re-analyzed outside holding time. Both sets of data have been reported.

No other difficulties were encountered during the semivolatiles analysis.

All other quality control parameters were within the acceptance limits.

MAR 10 2014



Case Narrative

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98624-1
SDG: KPS112

Job ID: 680-98624-1 (Continued)

Laboratory: TestAmerica Savannah (Continued)

DISSOLVED GASES

Sample BSA-MW-01S-0214 (680-98624-1) was analyzed for dissolved gases in accordance with RSK-175. The samples were analyzed on 02/25/2014.

No difficulties were encountered during the dissolved gases analysis.

All quality control parameters were within the acceptance limits.

METALS (ICP)

Sample BSA-MW-01S-F(0.2)-0214 (680-98624-2) was analyzed for Metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared and analyzed on 02/19/2014.

No difficulties were encountered during the metals analysis.

All quality control parameters were within the acceptance limits.

METALS (ICP)

Sample BSA-MW-01S-0214 (680-98624-1) was analyzed for Metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared and analyzed on 02/19/2014.

No difficulties were encountered during the metals analysis.

All quality control parameters were within the acceptance limits.

ALKALINITY

Sample BSA-MW-01S-0214 (680-98624-1) was analyzed for alkalinity in accordance with EPA Method 310.1. The samples were analyzed on 02/24/2014.

No difficulties were encountered during the alkalinity analysis.

All quality control parameters were within the acceptance limits.

CHLORIDE

Sample BSA-MW-01S-0214 (680-98624-1) was analyzed for Chloride in accordance with EPA Method 325.2. The samples were analyzed on 02/18/2014.

Sample BSA-MW-01S-0214 (680-98624-1)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No difficulties were encountered during the chloride analysis.

All quality control parameters were within the acceptance limits.

NITRATE-NITRITE AS NITROGEN

Sample BSA-MW-01S-0214 (680-98624-1) was analyzed for nitrate-nitrite as nitrogen in accordance with EPA Method 353.2. The samples were analyzed on 02/14/2014.

Nitrate as N failed the recovery criteria high for LCS 680-315764/14. Refer to the QC report for details.

No difficulties were encountered during the nitrate-nitrite analysis.

All quality control parameters were within the acceptance limits.

SULFATE

Sample BSA-MW-01S-0214 (680-98624-1) was analyzed for sulfate in accordance with EPA Method 375.4. The samples were analyzed on 02/18/2014.

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Case Narrative

Client: Solutia Inc.
Project/Site: W GK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98624-1
SDG: KPS112

Job ID: 680-98624-1 (Continued)

Laboratory: TestAmerica Savannah (Continued)

No difficulties were encountered during the sulfate analysis.

All quality control parameters were within the acceptance limits.

TOTAL ORGANIC CARBON

Sample BSA-MW-01S-0214 (680-98624-1) was analyzed for total organic carbon in accordance with EPA Method 415.1. The samples were analyzed on 02/20/2014.

No difficulties were encountered during the TOC analysis.

All quality control parameters were within the acceptance limits.

DISSOLVED ORGANIC CARBON (DOC)

Sample BSA-MW-01S-F(0.2)-0214 (680-98624-2) was analyzed for Dissolved Organic Carbon (DOC) in accordance with EPA Method 415.1. The samples were analyzed on 02/20/2014.

No difficulties were encountered during the DOC analysis.

All quality control parameters were within the acceptance limits.

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Sample Summary

Client: Solutia Inc.

Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98624-1

SDG: KPS112

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-98624-1	BSA-MW-01S-0214 ✓	Water	02/13/14 15:15	02/14/14 10:07
680-98624-2	BSA-MW-01S-F(0.2)-0214 ✓	Water	02/13/14 15:15	02/14/14 10:07
680-98624-3	BSA-MW-01S-0214-EB ✓	Water	02/13/14 13:45	02/14/14 10:07
680-98624-4	1Q14 LTM Trip Blank #7 ✓	Water	02/13/14 00:00	02/14/14 10:07

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TestAmerica Savannah

Method Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98624-1
SDG: KPS112

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL SAV
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL SAV
RSK-175	Dissolved Gases (GC)	RSK	TAL SAV
6010C	Metals (ICP)	SW846	TAL SAV
310.1	Alkalinity	MCAWW	TAL SAV
325.2	Chloride	MCAWW	TAL SAV
353.2	Nitrogen, Nitrate-Nitrite	MCAWW	TAL SAV
375.4	Sulfate	MCAWW	TAL SAV
415.1	TOC	MCAWW	TAL SAV
415.1	DOC	MCAWW	TAL SAV

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7658

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TestAmerica Savannah

Definitions/Glossary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98624-1
SDG: KPS112

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
*	ISTD response or retention time outside acceptable limits

GC/MS Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
H	Sample was prepped or analyzed beyond the specified holding time
X	Surrogate is outside control limits
*	LCS or LCSD exceeds the control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
*	RPD of the LCS and LCSD exceeds the control limits

GC VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

General Chemistry

Qualifier	Qualifier Description
*	LCS or LCSD exceeds the control limits
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
■	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

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TestAmerica Savannah

Detection Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98624-1
SDG: KPS112

Client Sample ID: BSA-MW-01S-0214

Lab Sample ID: 680-98624-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	560000		10000		ug/L	10000		8260B	Total/NA
Methane (TCD)	5900		390		ug/L	1		RSK-175	Total/NA
Iron	10		0.050		mg/L	1		6010C	Total
Manganese	1.0		0.010		mg/L	1		6010C	Total
Chloride	110		5.0		mg/L	5		325.2	Total/NA
Total Organic Carbon	10		1.0		mg/L	1		415.1	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Alkalinity	920		5.0		mg/L	1		310.1	Total/NA
Carbon Dioxide, Free	60		5.0		mg/L	1		310.1	Total/NA

Client Sample ID: BSA-MW-01S-F(0.2)-0214

Lab Sample ID: 680-98624-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron, Dissolved	10		0.050		mg/L	1		6010C	Dissolved
Manganese, Dissolved	1.0		0.010		mg/L	1		6010C	Dissolved
Dissolved Organic Carbon	9.8 J		1.0		mg/L	1		415.1	Dissolved

Client Sample ID: BSA-MW-01S-0214-EB

Lab Sample ID: 680-98624-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chlorobenzene	3.2		1.0		ug/L	1		8260B	Total/NA
1,4-Dichlorobenzene	3.4		1.0		ug/L	1		8260B	Total/NA

Client Sample ID: 1Q14 LTM Trip Blank #7

Lab Sample ID: 680-98624-4

No Detections.

This Detection Summary does not include radiochemical test results.

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TestAmerica Savannah

Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98624-1
SDG: KPS112

Client Sample ID: BSA-MW-01S-0214

Lab Sample ID: 680-98624-1

Date Collected: 02/13/14 15:15

Matrix: Water

Date Received: 02/14/14 10:07

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	560000		10000		ug/L			02/24/14 16:57	10000
Chlorobenzene	10000	U	10000		ug/L			02/24/14 16:57	10000
1,2-Dichlorobenzene	10000	U	10000		ug/L			02/24/14 16:57	10000
1,3-Dichlorobenzene	10000	U	10000		ug/L			02/24/14 16:57	10000
1,4-Dichlorobenzene	10000	U	10000		ug/L			02/24/14 16:57	10000

Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	101		70 - 130					02/24/14 16:57	10000
Dibromofluoromethane	91		70 - 130					02/24/14 16:57	10000
Toluene-d8 (Surr)	99		70 - 130					02/24/14 16:57	10000

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorophenol	11	U	11		ug/L		02/20/14 14:37	02/21/14 22:55	1
1,2,4-Trichlorobenzene	11	U	11		ug/L		02/20/14 14:37	02/21/14 22:55	1

Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	61		38 - 130				02/20/14 14:37	02/21/14 22:55	1
2-Fluorophenol	68		25 - 130				02/20/14 14:37	02/21/14 22:55	1
Nitrobenzene-d5	72		39 - 130				02/20/14 14:37	02/21/14 22:55	1
Phenol-d5	69		25 - 130				02/20/14 14:37	02/21/14 22:55	1
Terphenyl-d14	68		10 - 143				02/20/14 14:37	02/21/14 22:55	1
2,4,6-Tribromophenol	93		31 - 141				02/20/14 14:37	02/21/14 22:55	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorophenol	9.6	U H	9.6		ug/L		02/24/14 15:35	02/26/14 16:01	1
1,2,4-Trichlorobenzene	9.6	U H	9.6		ug/L		02/24/14 15:35	02/26/14 16:01	1

Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	37 X		38 - 130				02/24/14 15:35	02/26/14 16:01	1
2-Fluorophenol	56		25 - 130				02/24/14 15:35	02/26/14 16:01	1
Nitrobenzene-d5	59		39 - 130				02/24/14 15:35	02/26/14 16:01	1
Phenol-d5	59		25 - 130				02/24/14 15:35	02/26/14 16:01	1
Terphenyl-d14	76		10 - 143				02/24/14 15:35	02/26/14 16:01	1
2,4,6-Tribromophenol	76		31 - 141				02/24/14 15:35	02/26/14 16:01	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	1.1	U	1.1		ug/L			02/25/14 14:33	1
Ethylene	1.0	U	1.0		ug/L			02/25/14 14:33	1
Methane (TCD)	5900		390		ug/L			02/25/14 14:33	1

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	10		0.050		mg/L		02/19/14 09:21	02/19/14 21:07	1
Manganese	1.0		0.010		mg/L		02/19/14 09:21	02/19/14 21:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	110		5.0		mg/L			02/18/14 13:36	5

TestAmerica Savannah

Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98624-1
SDG: KPS112

Client Sample ID: BSA-MW-01S-0214

Lab Sample ID: 680-98624-1

Date Collected: 02/13/14 15:15

Matrix: Water

Date Received: 02/14/14 10:07

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0.050	U ^ ^ <i>45</i>	0.050		mg/L			02/14/14 15:40	1
Sulfate	5.0	U	5.0		mg/L			02/18/14 16:55	1
Total Organic Carbon	10		1.0		mg/L			02/20/14 05:07	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	920		5.0		mg/L			02/24/14 17:03	1
Carbon Dioxide, Free	60		5.0		mg/L			02/24/14 17:03	1

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TestAmerica Savannah

Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98624-1
SDG: KPS112

Client Sample ID: BSA-MW-01S-F(0.2)-0214

Lab Sample ID: 680-98624-2

Date Collected: 02/13/14 15:15

Matrix: Water

Date Received: 02/14/14 10:07

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	10		0.050		mg/L		02/19/14 09:21	02/19/14 21:11	1
Manganese, Dissolved	1.0		0.010		mg/L		02/19/14 09:21	02/19/14 21:11	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	9.8	J	1.0		mg/L			02/20/14 17:53	1

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TestAmerica Savannah

Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98624-1
SDG: KPS112

Client Sample ID: BSA-MW-01S-0214-EB

Lab Sample ID: 680-98624-3

Date Collected: 02/13/14 13:45

Matrix: Water

Date Received: 02/14/14 10:07

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			02/21/14 20:05	1
Chlorobenzene	3.2		1.0		ug/L			02/21/14 20:05	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			02/21/14 20:05	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			02/21/14 20:05	1
1,4-Dichlorobenzene	3.4		1.0		ug/L			02/21/14 20:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98		70 - 130		02/21/14 20:05	1
Dibromofluoromethane	93		70 - 130		02/21/14 20:05	1
Toluene-d8 (Surr)	98		70 - 130		02/21/14 20:05	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorophenol	9.8	U	9.8		ug/L		02/20/14 14:37	02/21/14 23:19	1
1,2,4-Trichlorobenzene	9.8	U	9.8		ug/L		02/20/14 14:37	02/21/14 23:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	53		38 - 130	02/20/14 14:37	02/21/14 23:19	1
2-Fluorophenol	61		25 - 130	02/20/14 14:37	02/21/14 23:19	1
Nitrobenzene-d5	58		39 - 130	02/20/14 14:37	02/21/14 23:19	1
Phenol-d5	59		25 - 130	02/20/14 14:37	02/21/14 23:19	1
Terphenyl-d14	71		10 - 143	02/20/14 14:37	02/21/14 23:19	1
2,4,6-Tribromophenol	67		31 - 141	02/20/14 14:37	02/21/14 23:19	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorophenol	9.6	UH	9.6		ug/L		02/24/14 15:35	02/26/14 16:25	1
1,2,4-Trichlorobenzene	9.6	UH	9.6		ug/L		02/24/14 15:35	02/26/14 16:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	40		38 - 130	02/24/14 15:35	02/26/14 16:25	1
2-Fluorophenol	64		25 - 130	02/24/14 15:35	02/26/14 16:25	1
Nitrobenzene-d5	68		39 - 130	02/24/14 15:35	02/26/14 16:25	1
Phenol-d5	68		25 - 130	02/24/14 15:35	02/26/14 16:25	1
Terphenyl-d14	84		10 - 143	02/24/14 15:35	02/26/14 16:25	1
2,4,6-Tribromophenol	74		31 - 141	02/24/14 15:35	02/26/14 16:25	1

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TestAmerica Savannah

Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98624-1
SDG: KPS112

Client Sample ID: 1Q14 LTM Trip Blank #7

Lab Sample ID: 680-98624-4

Date Collected: 02/13/14 00:00

Matrix: Water

Date Received: 02/14/14 10:07

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U *	1.0		ug/L			02/24/14 16:14	1
Chlorobenzene	1.0	U *	1.0		ug/L			02/24/14 16:14	1
1,2-Dichlorobenzene	1.0	U *	1.0		ug/L			02/24/14 16:14	1
1,3-Dichlorobenzene	1.0	U *	1.0		ug/L			02/24/14 16:14	1
1,4-Dichlorobenzene	1.0	U *	1.0		ug/L			02/24/14 16:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99	*	70 - 130					02/24/14 16:14	1
Dibromofluoromethane	87	*	70 - 130					02/24/14 16:14	1
Toluene-d8 (Surr)	92	*	70 - 130					02/24/14 16:14	1

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TestAmerica Savannah

Surrogate Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98624-1
SDG: KPS112

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (70-130)	DBFM (70-130)	TOL (70-130)
680-98624-1	BSA-MW-01S-0214	101	91	99
680-98624-3	BSA-MW-01S-0214-EB	98	93	98
680-98624-4	1Q14 LTM Trip Blank #7	99 *	87 *	92 *
LCS 680-316608/5	Lab Control Sample	112	92	108
LCS 680-316857/4	Lab Control Sample	100	87	103
LCS 680-316858/4	Lab Control Sample	95	87	93
LCSD 680-316608/9	Lab Control Sample Dup	99	89	101
LCSD 680-316857/5	Lab Control Sample Dup	105	89	107
LCSD 680-316858/5	Lab Control Sample Dup	98	88	99
MB 680-316608/7	Method Blank	98	97	97
MB 680-316857/8	Method Blank	100	94	96
MB 680-316858/8	Method Blank	94	95	90

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (38-130)	2FP (25-130)	NBZ (39-130)	PHL (25-130)	TPH (10-143)	TBP (31-141)
680-98624-1	BSA-MW-01S-0214	61	68	72	69	68	93
680-98624-1 - RE	BSA-MW-01S-0214	37 X	56	59	59	76	76
680-98624-3	BSA-MW-01S-0214-EB	53	61	58	59	71	67
680-98624-3 - RE	BSA-MW-01S-0214-EB	40	64	68	68	84	74
LCS 680-316409/5-A	Lab Control Sample	76	71	79	63	85	89
LCS 680-316953/6-A	Lab Control Sample	71	63	67	63	77	75
LCSD 680-316409/6-A	Lab Control Sample Dup	81	69	73	66	82	91
LCSD 680-316953/7-A	Lab Control Sample Dup	79	73	79	72	87	87
MB 680-316409/4-A	Method Blank	81	78	88	77	100	89
MB 680-316953/5-A	Method Blank	70	68	73	73	88	70

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPH = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

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TestAmerica Savannah

QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98624-1
SDG: KPS112

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 680-316608/7

Matrix: Water

Analysis Batch: 316608

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			02/21/14 11:55	1
Chlorobenzene	1.0	U	1.0		ug/L			02/21/14 11:55	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			02/21/14 11:55	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			02/21/14 11:55	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			02/21/14 11:55	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	98		70 - 130		02/21/14 11:55	1
Dibromofluoromethane	97		70 - 130		02/21/14 11:55	1
Toluene-d8 (Surr)	97		70 - 130		02/21/14 11:55	1

Lab Sample ID: LCS 680-316608/5

Matrix: Water

Analysis Batch: 316608

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	53.3		ug/L		107	74 - 123
Chlorobenzene	50.0	51.2		ug/L		102	79 - 120
1,2-Dichlorobenzene	50.0	55.5		ug/L		111	77 - 124
1,3-Dichlorobenzene	50.0	56.6		ug/L		113	79 - 123
1,4-Dichlorobenzene	50.0	54.1		ug/L		108	76 - 124

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	112		70 - 130
Dibromofluoromethane	92		70 - 130
Toluene-d8 (Surr)	108		70 - 130

Lab Sample ID: LCSD 680-316608/9

Matrix: Water

Analysis Batch: 316608

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	50.0	50.9		ug/L		102	74 - 123	5	30
Chlorobenzene	50.0	46.4		ug/L		93	79 - 120	10	30
1,2-Dichlorobenzene	50.0	48.3		ug/L		97	77 - 124	14	30
1,3-Dichlorobenzene	50.0	49.2		ug/L		98	79 - 123	14	30
1,4-Dichlorobenzene	50.0	48.2		ug/L		96	76 - 124	12	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene	99		70 - 130
Dibromofluoromethane	89		70 - 130
Toluene-d8 (Surr)	101		70 - 130

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QC Sample Results

Client: Solutia Inc.
Project/Site: W GK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98624-1
SDG: KPS112

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 680-316857/8

Matrix: Water

Analysis Batch: 316857

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			02/24/14 12:08	1
Chlorobenzene	1.0	U	1.0		ug/L			02/24/14 12:08	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			02/24/14 12:08	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			02/24/14 12:08	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			02/24/14 12:08	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	100		70 - 130		02/24/14 12:08	1
Dibromofluoromethane	94		70 - 130		02/24/14 12:08	1
Toluene-d8 (Surr)	96		70 - 130		02/24/14 12:08	1

Lab Sample ID: LCS 680-316857/4

Matrix: Water

Analysis Batch: 316857

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	49.7		ug/L		99	74 - 123
Chlorobenzene	50.0	47.8		ug/L		96	79 - 120
1,2-Dichlorobenzene	50.0	49.5		ug/L		99	77 - 124
1,3-Dichlorobenzene	50.0	50.1		ug/L		100	79 - 123
1,4-Dichlorobenzene	50.0	48.8		ug/L		98	76 - 124

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	100		70 - 130
Dibromofluoromethane	87		70 - 130
Toluene-d8 (Surr)	103		70 - 130

Lab Sample ID: LCSD 680-316857/5

Matrix: Water

Analysis Batch: 316857

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	50.0	53.5		ug/L		107	74 - 123	7	30
Chlorobenzene	50.0	48.6		ug/L		97	79 - 120	2	30
1,2-Dichlorobenzene	50.0	51.3		ug/L		103	77 - 124	4	30
1,3-Dichlorobenzene	50.0	53.0		ug/L		106	79 - 123	6	30
1,4-Dichlorobenzene	50.0	51.2		ug/L		102	76 - 124	5	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene	105		70 - 130
Dibromofluoromethane	89		70 - 130
Toluene-d8 (Surr)	107		70 - 130

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TestAmerica Savannah

QC Sample Results

Client: Solutia Inc.
Project/Site: W GK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98624-1
SDG: KPS112

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 680-316858/8
Matrix: Water
Analysis Batch: 316858

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			02/24/14 12:23	1
Chlorobenzene	1.0	U	1.0		ug/L			02/24/14 12:23	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			02/24/14 12:23	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			02/24/14 12:23	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			02/24/14 12:23	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	94		70 - 130		02/24/14 12:23	1
Dibromofluoromethane	95		70 - 130		02/24/14 12:23	1
Toluene-d8 (Surr)	90		70 - 130		02/24/14 12:23	1

Lab Sample ID: LCS 680-316858/4
Matrix: Water
Analysis Batch: 316858

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	49.3		ug/L		99	74 - 123
Chlorobenzene	50.0	44.5		ug/L		89	79 - 120
1,2-Dichlorobenzene	50.0	44.6		ug/L		89	77 - 124
1,3-Dichlorobenzene	50.0	46.9		ug/L		94	79 - 123
1,4-Dichlorobenzene	50.0	43.6		ug/L		87	76 - 124

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	95		70 - 130
Dibromofluoromethane	87		70 - 130
Toluene-d8 (Surr)	93		70 - 130

Lab Sample ID: LCSD 680-316858/5
Matrix: Water
Analysis Batch: 316858

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	50.0	53.7		ug/L		107	74 - 123	9	30
Chlorobenzene	50.0	47.5		ug/L		95	79 - 120	6	30
1,2-Dichlorobenzene	50.0	46.4		ug/L		93	77 - 124	4	30
1,3-Dichlorobenzene	50.0	47.1		ug/L		94	79 - 123	0	30
1,4-Dichlorobenzene	50.0	47.4		ug/L		95	76 - 124	8	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene	98		70 - 130
Dibromofluoromethane	88		70 - 130
Toluene-d8 (Surr)	99		70 - 130

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QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98624-1
SDG: KPS112

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 680-316409/4-A
Matrix: Water
Analysis Batch: 317112

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 316409

Analyte	MB	MB	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorophenol	10	U			10		ug/L		02/20/14 14:37	02/25/14 14:29	1
1,2,4-Trichlorobenzene	10	U			10		ug/L		02/20/14 14:37	02/25/14 14:29	1

Surrogate	MB	MB	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	81				38 - 130	02/20/14 14:37	02/25/14 14:29	1
2-Fluorophenol	78				25 - 130	02/20/14 14:37	02/25/14 14:29	1
Nitrobenzene-d5	88				39 - 130	02/20/14 14:37	02/25/14 14:29	1
Phenol-d5	77				25 - 130	02/20/14 14:37	02/25/14 14:29	1
Terphenyl-d14	100				10 - 143	02/20/14 14:37	02/25/14 14:29	1
2,4,6-Tribromophenol	89				31 - 141	02/20/14 14:37	02/25/14 14:29	1

Lab Sample ID: LCS 680-316409/5-A
Matrix: Water
Analysis Batch: 316726

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 316409

Analyte	Spike	LCS	LCS	Result	Qualifier	Unit	D	%Rec	Limits
4-Chloroaniline	Added	100	4.41	J		ug/L		4	42 - 130
2-Chlorophenol	100	75.4				ug/L		75	57 - 130
1,4-Dioxane	100	62.8				ug/L		63	35 - 130
1,2,4-Trichlorobenzene	100	60.3				ug/L		60	42 - 130

Surrogate	LCS	LCS	%Recovery	Qualifier	Limits
2-Fluorobiphenyl	76				38 - 130
2-Fluorophenol	71				25 - 130
Nitrobenzene-d5	79				39 - 130
Phenol-d5	63				25 - 130
Terphenyl-d14	85				10 - 143
2,4,6-Tribromophenol	89				31 - 141

Lab Sample ID: LCSD 680-316409/6-A
Matrix: Water
Analysis Batch: 316726

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 316409

Analyte	Spike	LCSD	LCSD	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
4-Chloroaniline	Added	100	60.0	*		ug/L		60	42 - 130	173	50
2-Chlorophenol	100	71.4				ug/L		71	57 - 130	6	50
1,4-Dioxane	100	63.4				ug/L		63	35 - 130	1	50
1,2,4-Trichlorobenzene	100	54.1				ug/L		54	42 - 130	11	50

Surrogate	LCSD	LCSD	%Recovery	Qualifier	Limits
2-Fluorobiphenyl	81				38 - 130
2-Fluorophenol	69				25 - 130
Nitrobenzene-d5	73				39 - 130
Phenol-d5	66				25 - 130
Terphenyl-d14	82				10 - 143
2,4,6-Tribromophenol	91				31 - 141

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QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98624-1
SDG: KPS112

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 680-316953/5-A
Matrix: Water
Analysis Batch: 317351

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 316953

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorophenol	10	U	10		ug/L		02/24/14 15:35	02/26/14 14:24	1
1,2,4-Trichlorobenzene	10	U	10		ug/L		02/24/14 15:35	02/26/14 14:24	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	70		38 - 130	02/24/14 15:35	02/26/14 14:24	1
2-Fluorophenol	68		25 - 130	02/24/14 15:35	02/26/14 14:24	1
Nitrobenzene-d5	73		39 - 130	02/24/14 15:35	02/26/14 14:24	1
Phenol-d5	73		25 - 130	02/24/14 15:35	02/26/14 14:24	1
Terphenyl-d14	88		10 - 143	02/24/14 15:35	02/26/14 14:24	1
2,4,6-Tribromophenol	70		31 - 141	02/24/14 15:35	02/26/14 14:24	1

Lab Sample ID: LCS 680-316953/6-A
Matrix: Water
Analysis Batch: 317351

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 316953

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Chloroaniline	100	54.9		ug/L		55	42 - 130
2-Chlorophenol	100	69.5		ug/L		70	57 - 130
1,4-Dioxane	100	57.7		ug/L		58	35 - 130
1,2,4-Trichlorobenzene	100	49.6		ug/L		50	42 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	71		38 - 130
2-Fluorophenol	63		25 - 130
Nitrobenzene-d5	67		39 - 130
Phenol-d5	63		25 - 130
Terphenyl-d14	77		10 - 143
2,4,6-Tribromophenol	75		31 - 141

Lab Sample ID: LCSD 680-316953/7-A
Matrix: Water
Analysis Batch: 317351

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 316953

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
4-Chloroaniline	100	56.5		ug/L		56	42 - 130	3	50
2-Chlorophenol	100	81.4		ug/L		81	57 - 130	16	50
1,4-Dioxane	100	64.1		ug/L		64	35 - 130	10	50
1,2,4-Trichlorobenzene	100	59.1		ug/L		59	42 - 130	18	50

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl	79		38 - 130
2-Fluorophenol	73		25 - 130
Nitrobenzene-d5	79		39 - 130
Phenol-d5	72		25 - 130
Terphenyl-d14	87		10 - 143
2,4,6-Tribromophenol	87		31 - 141

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QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98624-1
SDG: KPS112

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 680-317026/8
Matrix: Water
Analysis Batch: 317026

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Ethane	1.1	U	1.1		ug/L			02/25/14 11:41	1
Ethylene	1.0	U	1.0		ug/L			02/25/14 11:41	1
Methane	0.58	U	0.58		ug/L			02/25/14 11:41	1
Methane (TCD)	390	U	390		ug/L			02/25/14 11:41	1

Lab Sample ID: LCS 680-317026/4
Matrix: Water
Analysis Batch: 317026

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
Ethane	288	264		ug/L		91	75 - 125	
Ethylene	269	254		ug/L		94	75 - 125	
Methane	154	131		ug/L		85	75 - 125	

Lab Sample ID: LCS 680-317026/5
Matrix: Water
Analysis Batch: 317026

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
Methane (TCD)	1920	1480		ug/L		77	75 - 125	

Lab Sample ID: LCSD 680-317026/6
Matrix: Water
Analysis Batch: 317026

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike	LCSD	LCSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Added	Result	Qualifier				Limits		
Methane (TCD)	1920	1870		ug/L		97	75 - 125	24	30

Lab Sample ID: LCSD 680-317026/7
Matrix: Water
Analysis Batch: 317026

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Ethane	288	275		ug/L		95	75 - 125	4	30
Ethylene	269	260		ug/L		97	75 - 125	2	30
Methane	154	137		ug/L		89	75 - 125	4	30

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 680-316214/1-A
Matrix: Water
Analysis Batch: 316419

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 316214

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Iron	0.050	U	0.050		mg/L		02/19/14 09:21	02/19/14 20:00	1
Iron, Dissolved	0.050	U	0.050		mg/L		02/19/14 09:21	02/19/14 20:00	1
Manganese	0.010	U	0.010		mg/L		02/19/14 09:21	02/19/14 20:00	1
Manganese, Dissolved	0.010	U	0.010		mg/L		02/19/14 09:21	02/19/14 20:00	1

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QC Sample Results

Client: Solutia Inc.
Project/Site: W GK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98624-1
SDG: KPS112

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LCS 680-316214/2-A
Matrix: Water
Analysis Batch: 316419

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 316214

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
Iron	5.00	5.15		mg/L		103	75 - 125	
Iron, Dissolved	5.00	5.15		mg/L		103	75 - 125	
Manganese	0.500	0.536		mg/L		107	75 - 125	
Manganese, Dissolved	0.500	0.536		mg/L		107	75 - 125	

Method: 310.1 - Alkalinity

Lab Sample ID: MB 680-317049/5
Matrix: Water
Analysis Batch: 317049

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Alkalinity	5.0	U	5.0		mg/L			02/24/14 16:36	1
Carbon Dioxide, Free	5.0	U	5.0		mg/L			02/24/14 16:36	1

Lab Sample ID: LCS 680-317049/6
Matrix: Water
Analysis Batch: 317049

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
Alkalinity	250	223		mg/L		89	80 - 120	

Lab Sample ID: LCSD 680-317049/32
Matrix: Water
Analysis Batch: 317049

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	
								RPD	Limit
Alkalinity	250	241		mg/L		96	80 - 120	8	30

Method: 325.2 - Chloride

Lab Sample ID: MB 680-316243/21
Matrix: Water
Analysis Batch: 316243

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Chloride	1.0	U	1.0		mg/L			02/18/14 12:52	1

Lab Sample ID: LCS 680-316243/20
Matrix: Water
Analysis Batch: 316243

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
Chloride	25.0	25.8		mg/L		103	85 - 115	

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QC Sample Results

Client: Solutia Inc.
Project/Site: W GK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98624-1
SDG: KPS112

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 680-315764/13
Matrix: Water
Analysis Batch: 315764

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MOL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0.050	U ^	0.050		mg/L			02/14/14 15:31	1

Lab Sample ID: LCS 680-315764/14
Matrix: Water
Analysis Batch: 315764

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	0.500	0.565	^ *	mg/L		113	90 - 110
Nitrate Nitrite as N	1.00	1.07		mg/L		107	90 - 110
Nitrite as N	0.500	0.502		mg/L		100	90 - 110

Method: 375.4 - Sulfate

Lab Sample ID: MB 680-316246/23
Matrix: Water
Analysis Batch: 316246

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	5.0	U	5.0		mg/L			02/18/14 17:15	1

Lab Sample ID: LCS 680-316246/6
Matrix: Water
Analysis Batch: 316246

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	19.9		mg/L		100	75 - 125

Method: 415.1 - DOC

Lab Sample ID: MB 680-316600/85
Matrix: Water
Analysis Batch: 316600

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.0	U	1.0		mg/L			02/20/14 15:52	1

Lab Sample ID: LCS 680-316600/84
Matrix: Water
Analysis Batch: 316600

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	20.0	20.8		mg/L		104	80 - 120

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QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98624-1
SDG: KPS112

Method: 415.1 - TOC

Lab Sample ID: MB 680-316598/26
Matrix: Water
Analysis Batch: 316598


Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Total Organic Carbon	1.0	U	1.0		mg/L			02/20/14 00:21	1

Lab Sample ID: LCS 680-316598/33
Matrix: Water
Analysis Batch: 316598

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits		
		Result	Qualifier						
Total Organic Carbon	20.0	20.7		mg/L		104	80 - 120		

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TestAmerica Savannah

QC Association Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98624-1
SDG: KPS112

GC/MS VOA

Analysis Batch: 316608

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98624-3	BSA-MW-01S-0214-EB	Total/NA	Water	8260B	
LCS 680-316608/5	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-316608/9	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-316608/7	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 316857

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98624-1	BSA-MW-01S-0214	Total/NA	Water	8260B	
LCS 680-316857/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-316857/5	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-316857/8	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 316858

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98624-4	1Q14 LTM Trip Blank #7	Total/NA	Water	8260B	
LCS 680-316858/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-316858/5	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-316858/8	Method Blank	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 316409

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98624-1	BSA-MW-01S-0214	Total/NA	Water	3520C	
680-98624-3	BSA-MW-01S-0214-EB	Total/NA	Water	3520C	
LCS 680-316409/5-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 680-316409/6-A	Lab Control Sample Dup	Total/NA	Water	3520C	
MB 680-316409/4-A	Method Blank	Total/NA	Water	3520C	

Analysis Batch: 316726

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98624-1	BSA-MW-01S-0214	Total/NA	Water	8270D	316409
680-98624-3	BSA-MW-01S-0214-EB	Total/NA	Water	8270D	316409
LCS 680-316409/5-A	Lab Control Sample	Total/NA	Water	8270D	316409
LCSD 680-316409/6-A	Lab Control Sample Dup	Total/NA	Water	8270D	316409

Prep Batch: 316953

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98624-1 - RE	BSA-MW-01S-0214	Total/NA	Water	3520C	
680-98624-3 - RE	BSA-MW-01S-0214-EB	Total/NA	Water	3520C	
LCS 680-316953/6-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 680-316953/7-A	Lab Control Sample Dup	Total/NA	Water	3520C	
MB 680-316953/5-A	Method Blank	Total/NA	Water	3520C	

Analysis Batch: 317112

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 680-316409/4-A	Method Blank	Total/NA	Water	8270D	316409

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QC Association Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98624-1
SDG: KPS112

GC/MS Semi VOA (Continued)

Analysis Batch: 317351

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98624-1 - RE	BSA-MW-01S-0214	Total/NA	Water	8270D	316953
680-98624-3 - RE	BSA-MW-01S-0214-EB	Total/NA	Water	8270D	316953
LCS 680-316953/6-A	Lab Control Sample	Total/NA	Water	8270D	316953
LCSD 680-316953/7-A	Lab Control Sample Dup	Total/NA	Water	8270D	316953
MB 680-316953/5-A	Method Blank	Total/NA	Water	8270D	316953

GC VOA

Analysis Batch: 317026

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98624-1	BSA-MW-01S-0214	Total/NA	Water	RSK-175	
LCS 680-317026/4	Lab Control Sample	Total/NA	Water	RSK-175	
LCS 680-317026/5	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 680-317026/6	Lab Control Sample Dup	Total/NA	Water	RSK-175	
LCSD 680-317026/7	Lab Control Sample Dup	Total/NA	Water	RSK-175	
MB 680-317026/8	Method Blank	Total/NA	Water	RSK-175	

Metals

Prep Batch: 316214

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98624-1	BSA-MW-01S-0214	Total Recoverable	Water	3005A	
680-98624-2	BSA-MW-01S-F(0.2)-0214	Dissolved	Water	3005A	
LCS 680-316214/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 680-316214/1-A	Method Blank	Total Recoverable	Water	3005A	

Analysis Batch: 316419

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98624-1	BSA-MW-01S-0214	Total Recoverable	Water	6010C	316214
680-98624-2	BSA-MW-01S-F(0.2)-0214	Dissolved	Water	6010C	316214
LCS 680-316214/2-A	Lab Control Sample	Total Recoverable	Water	6010C	316214
MB 680-316214/1-A	Method Blank	Total Recoverable	Water	6010C	316214

General Chemistry

Analysis Batch: 315764

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98624-1	BSA-MW-01S-0214	Total/NA	Water	353.2	
LCS 680-315764/14	Lab Control Sample	Total/NA	Water	353.2	
MB 680-315764/13	Method Blank	Total/NA	Water	353.2	


Analysis Batch: 316243

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98624-1	BSA-MW-01S-0214	Total/NA	Water	325.2	
LCS 680-316243/20	Lab Control Sample	Total/NA	Water	325.2	
MB 680-316243/21	Method Blank	Total/NA	Water	325.2	

Analysis Batch: 316246

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98624-1	BSA-MW-01S-0214	Total/NA	Water	375.4	

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MAR 10 2014 

QC Association Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98624-1
SDG: KPS112

General Chemistry (Continued)

Analysis Batch: 316246 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 680-316246/6	Lab Control Sample	Total/NA	Water	375.4	
MB 680-316246/23	Method Blank	Total/NA	Water	375.4	

Analysis Batch: 316598

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98624-1	BSA-MW-01S-0214	Total/NA	Water	415.1	
LCS 680-316598/33	Lab Control Sample	Total/NA	Water	415.1	
MB 680-316598/26	Method Blank	Total/NA	Water	415.1	

Analysis Batch: 316600

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98624-2	BSA-MW-01S-F(0.2)-0214	Dissolved	Water	415.1	
LCS 680-316600/84	Lab Control Sample	Dissolved	Water	415.1	
MB 680-316600/85	Method Blank	Dissolved	Water	415.1	

Analysis Batch: 317049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98624-1	BSA-MW-01S-0214	Total/NA	Water	310.1	
LCS 680-317049/6	Lab Control Sample	Total/NA	Water	310.1	
LCSD 680-317049/32	Lab Control Sample Dup	Total/NA	Water	310.1	
MB 680-317049/5	Method Blank	Total/NA	Water	310.1	

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MAR 10 2014

Lab Chronicle

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98624-1
SDG: KPS112

Client Sample ID: BSA-MW-01S-0214

Lab Sample ID: 680-98624-1

Date Collected: 02/13/14 15:15

Matrix: Water

Date Received: 02/14/14 10:07

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10000	316857	02/24/14 16:57	MMT	TAL SAV
Total/NA	Prep	3520C			316409	02/20/14 14:37	RBS	TAL SAV
Total/NA	Analysis	8270D		1	316726	02/21/14 22:55	JLW	TAL SAV
Total/NA	Prep	3520C	RE		316953	02/24/14 15:35	RBS	TAL SAV
Total/NA	Analysis	8270D	RE	1	317351	02/26/14 16:01	SMC	TAL SAV
Total/NA	Analysis	RSK-175		1	317026	02/25/14 14:33	TAR	TAL SAV
Total Recoverable	Prep	3005A			316214	02/19/14 09:21	BJB	TAL SAV
Total Recoverable	Analysis	6010C		1	316419	02/19/14 21:07	BCB	TAL SAV
Total/NA	Analysis	353.2		1	315764	02/14/14 15:40	GRX	TAL SAV
Total/NA	Analysis	325.2		5	316243	02/18/14 13:36	JME	TAL SAV
Total/NA	Analysis	375.4		1	316246	02/18/14 16:55	JME	TAL SAV
Total/NA	Analysis	415.1		1	316598	02/20/14 05:07	CMP	TAL SAV
Total/NA	Analysis	310.1		1	317049	02/24/14 17:03	LBH	TAL SAV

Client Sample ID: BSA-MW-01S-F(0.2)-0214

Lab Sample ID: 680-98624-2

Date Collected: 02/13/14 15:15

Matrix: Water

Date Received: 02/14/14 10:07

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			316214	02/19/14 09:21	BJB	TAL SAV
Dissolved	Analysis	6010C		1	316419	02/19/14 21:11	BCB	TAL SAV
Dissolved	Analysis	415.1		1	316600	02/20/14 17:53	CMP	TAL SAV

Client Sample ID: BSA-MW-01S-0214-EB

Lab Sample ID: 680-98624-3

Date Collected: 02/13/14 13:45

Matrix: Water

Date Received: 02/14/14 10:07

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	316608	02/21/14 20:05	MMT	TAL SAV
Total/NA	Prep	3520C			316409	02/20/14 14:37	RBS	TAL SAV
Total/NA	Analysis	8270D		1	316726	02/21/14 23:19	JLW	TAL SAV
Total/NA	Prep	3520C	RE		316953	02/24/14 15:35	RBS	TAL SAV
Total/NA	Analysis	8270D	RE	1	317351	02/26/14 16:25	SMC	TAL SAV

Client Sample ID: 1Q14 LTM Trip Blank #7

Lab Sample ID: 680-98624-4

Date Collected: 02/13/14 00:00

Matrix: Water

Date Received: 02/14/14 10:07

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	316858	02/24/14 16:14	MMT	TAL SAV

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Lab Chronicle

Client: Solutia Inc.

Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98624-1


SDG: KPS112

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858



TestAmerica Savannah

MAR 10 2014 

Savannah
5102 LaRoche Avenue

Savannah, GA 31404
phone 912.354.7858 fax 912.352.0165

Chain of Custody Record

TestAmerica

TestAmerica Laboratories, Inc.

Client Contact		Project Manager: Bob Billman		Site Contact: Michael Corbett		COC No:	
URS Corporation		Tel/Fax: (314) 743-4108		Lab Contact: Michele Kersey		1 of 1 COCs	
1001 Highlands Plaza Drive West, Suite 300		Analysis Turnaround Time		Carrier: FedEx		21563600.00001	
St. Louis, MO 63110		Calendar (C) or Work Days (W) <u>C</u>				SDG No	
(314) 429-0100 Phone		TAT if different from Below <u>Standard</u>					
(314) 429-0462 FAX		<input type="checkbox"/> 2 weeks					
Project Name: 1Q14 LTM GW Sampling		<input type="checkbox"/> 1 week					
Site: Solutia WG Krummrich Facility		<input type="checkbox"/> 2 days					
P O #		<input type="checkbox"/> 1 day					
Sample Identification		Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Sample Specific Notes:
BSA-MW-01S-0214 ✓		2/13/14	1515	G	Water	16	
BSA-MW-01S-F(0.2)-0214 ✓			1515	G	Water	2	
CPA-MW-01D-0214				G		16	
CPA-MW-01D-F(0.2)-0214				G		2	
BSA-MW-01S-0214-EB ✓		✓	1345	G	✓	5	
1Q14 LTM Trip Blank # 7 ✓		2/13/14			Water	2	
Preservation Used: 1= Ice, 2= HCl, 3= H2SO4, 4= HNO3, 5= NaOH, 6= Other							
Possible Hazard Identification							
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Ion B <input type="checkbox"/> Toxic							
Special Instructions/QC Requirements & Comments:							
Relinquished by: <u>Holt</u>		Company: URS		Date/Time: 2/13/14 1630		Received by: <u>[Signature]</u>	
Relinquished by:		Company:		Date/Time:		Received by:	
Relinquished by:		Company:		Date/Time:		Received by: <u>[Signature]</u>	

680-98624 Chain of Custody



680-98624 4.4/2.8/1.8°C
680-98618

MAR 10 2014

MM



Login Sample Receipt Checklist

Client: Solutia Inc.

Job Number: 680-98624-1

SDG Number: KPS112

Login Number: 98624

List Source: TestAmerica Savannah

List Number: 1

Creator: Conner, Keaton

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Certification Summary

Client: Solutia Inc.

Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98624-1

SDG: KPS112

Laboratory: TestAmerica Savannah

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
	AFCEE		SAVLAB	
A2LA	DoD ELAP		399.01	02-28-15
A2LA	ISO/IEC 17025		399.01	02-28-15
Alabama	State Program	4	41450	06-30-14
Arkansas DEQ	State Program	6	88-0692	01-31-15
California	NELAP	9	3217CA	07-31-14
Colorado	State Program	8	N/A	12-31-14
Connecticut	State Program	1	PH-0161	03-31-15
Florida	NELAP	4	E87052	06-30-14
GA Dept. of Agriculture	State Program	4	N/A	06-30-14
Georgia	State Program	4	N/A	06-30-14
Georgia	State Program	4	803	06-30-14
Guam	State Program	9	09-005r	04-17-14
Hawaii	State Program	9	N/A	06-30-14
Illinois	NELAP	5	200022	11-30-14
Indiana	State Program	5	N/A	06-30-14
Iowa	State Program	7	353	07-01-15
Kentucky (DW)	State Program	4	90084	12-31-14
Kentucky (UST)	State Program	4	18	06-30-14
Louisiana	NELAP	6	LA100015	12-31-14
Maine	State Program	1	GA00006	08-16-14
Maryland	State Program	3	250	12-31-14
Massachusetts	State Program	1	M-GA006	06-30-14
Michigan	State Program	5	9925	06-30-14
Mississippi	State Program	4	N/A	06-30-14
Montana	State Program	8	CERT0081	01-01-15
Nebraska	State Program	7	TestAmerica-Savannah	06-30-14
New Jersey	NELAP	2	GA769	06-30-14
New Mexico	State Program	6	N/A	06-30-14
New York	NELAP	2	10842	03-31-14
North Carolina DENR	State Program	4	269	12-31-14
North Carolina DHHS	State Program	4	13701	07-31-14
Oklahoma	State Program	6	9984	08-31-14
Pennsylvania	NELAP	3	68-00474	06-30-14
Puerto Rico	State Program	2	GA00006	12-31-14
South Carolina	State Program	4	98001	06-30-14
Tennessee	State Program	4	TN02961	06-30-14
Texas	NELAP	6	T104704185-08-TX	11-30-14
USDA	Federal		SAV 3-04	04-07-14
Virginia	NELAP	3	460161	06-14-14
Washington	State Program	10	C1794	06-10-14
West Virginia DEP	State Program	3	94	06-30-14
West Virginia DHHR	State Program	3	9950C	12-31-14
Wisconsin	State Program	5	999819810	08-31-14
Wyoming	State Program	8	8TMS-L	06-30-14

TestAmerica Savannah

MAR 10 2014

Solutia Krummrich Data Review WGK LTM 1Q14

Laboratory SDG: KPS113

Data Reviewer: Melissa Mansker

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 3/13/2014

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2008. USEPA National Functional Guidelines for Superfund Inorganic Data Review 2010

Work Plan: Revised Long-Term Monitoring Program (LTMP) Work Plan (Solutia 2009)

Sample Identification	
CPA-MW-1D-0214	CPA-MW-1D-F(0.2)-0214
1Q14 LTM Trip Blank #8	

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated sample CPA-MW-1D-0214 was re-extracted for SVOCs outside hold time for extraction. LCS/LCSD recoveries were outside evaluation criteria for SVOCs and nitrate. Samples were diluted due to high levels of target analytes. Instrument calibration was outside evaluation criteria for nitrate in sample CPA-MW-1D-0214. Dissolved organic carbon results were greater than total organic carbon results for samples CPA-MW-1D-F(0.2)-0214/CPA-MW-1D-0214, respectively. These issues are addressed further in the appropriate sections below.

The cooler receipt form indicated that one of one cooler was received by the laboratory at a temperature of 0.2°C which is outside the 4°C ± 2°C criteria. The samples were received in good condition; therefore no qualification of data was required. The cooler receipt form indicated a pH > 2 for dissolved organic carbon in sample CPA-MW-1D-F(0.2)-0214; please see section 11.0 of this review for qualifications.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

No, sample CPA-MW-1D-0214 was re-extracted for SVOCs three days outside the seven day hold time for extraction due to LCS recoveries outside evaluation criteria. SVOC data from the original extraction and analysis was used to qualify data. No qualification of SVOC data was required based on holding time criteria.

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

No

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

No

LCS/LCSD ID	Parameter	Analyte	LCS/LCSD Recovery	RPD	LCS/LCSD/ RPD Criteria
LCS/LCSD 680-316409/5/6-A	SVOCs	4-Chloroaniline	4/60	173	42-130/50
LCS 680-316042/14	General chemistry	Nitrate	112	NA	90-110

Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. The compound 4-chloroaniline is not reported for the associated samples. Analytical data reported as non-detect and associated with LCS recoveries above evaluation criteria, indicating a possible high bias, did not require qualification. No qualification of data was required.

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples collected as part of this SDG?

No

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

10.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

11.0 Additional Qualifications

Were additional qualifications applied?

Yes, the following samples are qualified, as summarized below, due to pH > 2.

Sample ID	Parameter	Analyte	Qualification
CPA-MW-1D-F(0.2)-0214	General chemistry	Dissolved organic carbon	J

Additionally, the following sample is qualified, as summarized below, due to instrument calibration outside evaluation criteria for nitrate.

Sample ID	Parameter	Analyte	Qualification
CPA-MW-1D-0214	General chemistry	Nitrate	UJ

Analytical data requiring qualification based on dissolved organic carbon results greater than total organic carbon results in sample CPA-MW-1D-F(0.2)-0214/CPA-MW-1D-0214, respectively, are included in the table below. Dissolved organic carbon results in sample CPA-MW-1D-F(0.2)-0214 were previously qualified due to pH > 2, no further qualification was required.

Sample ID	Parameter	Analyte	Qualification
CPA-MW-1D-0214	General chemistry	Total organic carbon	J

SDG KPS113

Results of Samples from Monitoring Well:

CPA-MW-1D

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

TestAmerica Job ID: 680-98660-1
TestAmerica Sample Delivery Group: KPS113
Client Project/Site: WGK Long Term Monitoring - 1Q14

For:
Solutia Inc.
575 Maryville Centre Dr.
Saint Louis, Missouri 63141

Attn: Mr. Jerry Rinaldi

Michele Kersey

Authorized for release by:
2/28/2014 4:06:58 PM

Michele Kersey, Project Manager I
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Reviewed on
MAR 13 2014
nm

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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MAR 13 2014

Case Narrative

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98660-1
SDG: KPS113

Job ID: 680-98660-1

Laboratory: TestAmerica Savannah

Narrative

CASE NARRATIVE

Client: Solutia Inc.

Project: WGK Long Term Monitoring - 1Q14

Report Number: 680-98660-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT

The samples were received on 2/15/2014 9:28 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.2° C. ✓

Except:

Method(s) 415.1, SM 5310B: The following sample(s) were collected in properly preserved vials for analysis of volatile organic compounds (VOCs). However, the pH was outside the required criteria when verified by the laboratory, and corrective action was not possible: CPA-MW-1D-F(0.2)-0214 (680-98660-2). ✓

VOLATILE ORGANIC COMPOUNDS (GC-MS)

Samples CPA-MW-1D-0214 (680-98660-1) and 1Q14 LTM Trip Blank #8 (680-98660-3) were analyzed for Volatile Organic Compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 02/25/2014.

Sample CPA-MW-1D-0214 (680-98660-1)[250X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No difficulties were encountered during the volatiles analysis.

All quality control parameters were within the acceptance limits.

SEMIVOLATILE ORGANIC COMPOUNDS (AQUEOUS)

Sample CPA-MW-1D-0214 (680-98660-1) was analyzed for Semivolatile Organic Compounds (Aqueous) in accordance with EPA SW-846 Method 8270D. The samples were prepared on 02/20/2014 and 02/24/2014 and analyzed on 02/25/2014 and 02/26/2014.

The laboratory control sample (LCS) for batch 316409 recovered outside control limits for the following analytes: 4-Chloroaniline. The associated sample(s) was re-prepared and/or re-analyzed outside holding time. Both sets of data have been reported.

Sample CPA-MW-1D-0214 (680-98660-1)[2X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No other difficulties were encountered during the semivolatiles analysis.

All other quality control parameters were within the acceptance limits.

DISSOLVED GASES

Sample CPA-MW-1D-0214 (680-98660-1) was analyzed for dissolved gases in accordance with RSK-175. The samples were analyzed on 02/25/2014.

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Case Narrative

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98660-1
SDG: KPS113

Job ID: 680-98660-1 (Continued)

Laboratory: TestAmerica Savannah (Continued)

No difficulties were encountered during the dissolved gases analysis.

All quality control parameters were within the acceptance limits.

METALS (ICP)

Sample CPA-MW-1D-F(0.2)-0214 (680-98660-2) was analyzed for Metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared and analyzed on 02/19/2014.

No difficulties were encountered during the metals analysis.

All quality control parameters were within the acceptance limits.

METALS (ICP)

Sample CPA-MW-1D-0214 (680-98660-1) was analyzed for Metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared and analyzed on 02/19/2014.

No difficulties were encountered during the metals analysis.

All quality control parameters were within the acceptance limits.

ALKALINITY

Sample CPA-MW-1D-0214 (680-98660-1) was analyzed for alkalinity in accordance with EPA Method 310.1. The samples were analyzed on 02/24/2014.

No difficulties were encountered during the alkalinity analysis.

All quality control parameters were within the acceptance limits.

CHLORIDE

Sample CPA-MW-1D-0214 (680-98660-1) was analyzed for Chloride in accordance with EPA Method 325.2. The samples were analyzed on 02/18/2014.

Sample CPA-MW-1D-0214 (680-98660-1)[2X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No difficulties were encountered during the chloride analysis.

All quality control parameters were within the acceptance limits.

NITRATE-NITRITE AS NITROGEN

Sample CPA-MW-1D-0214 (680-98660-1) was analyzed for nitrate-nitrite as nitrogen in accordance with EPA Method 353.2. The samples were analyzed on 02/15/2014.

The nitrate result is obtained from a calculation incorporating the nitrite and nitrate + nitrite results. Re-analysis is not performed if QC for the calculated analyte does not meet acceptance criteria, provided the QC results for the component analytes are acceptable. Data have been qualified to denote this situation.

No other difficulties were encountered during the nitrate-nitrite analysis.

All other quality control parameters were within the acceptance limits.

SULFATE

Sample CPA-MW-1D-0214 (680-98660-1) was analyzed for sulfate in accordance with EPA Method 375.4. The samples were analyzed on 02/18/2014.

No difficulties were encountered during the sulfate analysis.

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Case Narrative

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98660-1
SDG: KPS113

Job ID: 680-98660-1 (Continued)

Laboratory: TestAmerica Savannah (Continued)

All quality control parameters were within the acceptance limits.

TOTAL ORGANIC CARBON

Sample CPA-MW-1D-0214 (680-98660-1) was analyzed for total organic carbon in accordance with EPA Method 415.1. The samples were analyzed on 02/20/2014.

DOC on field filtered sample was significantly higher than TOC on unfiltered sample. Both samples were reanalyzed to confirm results. ✓

No other difficulties were encountered during the TOC analysis.

All other quality control parameters were within the acceptance limits.

DISSOLVED ORGANIC CARBON (DOC)

Sample CPA-MW-1D-F(0.2)-0214 (680-98660-2) was analyzed for Dissolved Organic Carbon (DOC) in accordance with EPA Method 415.1. The samples were analyzed on 02/20/2014.

Sample CPA-MW-1D-F(0.2)-0214 (680-98660-2)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No difficulties were encountered during the DOC analysis.

All quality control parameters were within the acceptance limits.

MAR 13 2014

Sample Summary

Client: Solutia Inc.

Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98660-1

SDG: KPS113

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-98660-1	CPA-MW-1D-0214	Water	02/14/14 11:20	02/15/14 09:28
680-98660-2	CPA-MW-1D-F(0.2)-0214	Water	02/14/14 11:20	02/15/14 09:28
680-98660-3	1Q14 LTM Trip Blank #8	Water	02/14/14 00:00	02/15/14 09:28

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TestAmerica Savannah

Method Summary

Client: Solutia Inc.

Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98660-1

SDG: KPS113

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL SAV
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL SAV
RSK-175	Dissolved Gases (GC)	RSK	TAL SAV
6010C	Metals (ICP)	SW846	TAL SAV
310.1	Alkalinity	MCAWW	TAL SAV
325.2	Chloride	MCAWW	TAL SAV
353.2	Nitrogen, Nitrate-Nitrite	MCAWW	TAL SAV
375.4	Sulfate	MCAWW	TAL SAV
415.1	TOC	MCAWW	TAL SAV
415.1	DOC	MCAWW	TAL SAV

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

MAR 13 2014



TestAmerica Savannah

Definitions/Glossary

Client: Solutia Inc.
Project/Site: W GK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98660-1
SDG: KPS113

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

GC/MS Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
H	Sample was prepped or analyzed beyond the specified holding time
*	LCS or LCSD exceeds the control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
*	RPD of the LCS and LCSD exceeds the control limits

GC VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

General Chemistry

Qualifier	Qualifier Description
*	LCS or LCSD exceeds the control limits
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
■	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

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TestAmerica Savannah

Detection Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98660-1
SDG: KPS113

Client Sample ID: CPA-MW-1D-0214

Lab Sample ID: 680-98660-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	7200		250		ug/L	250		8260B	Total/NA
Chlorobenzene	17000		250		ug/L	250		8260B	Total/NA
1,2-Dichlorobenzene	14000		250		ug/L	250		8260B	Total/NA
1,3-Dichlorobenzene	1200		250		ug/L	250		8260B	Total/NA
1,4-Dichlorobenzene	9300		250		ug/L	250		8260B	Total/NA
1,2,4-Trichlorobenzene	650		20		ug/L	2		8270D	Total/NA
1,2,4-Trichlorobenzene - RE	510	H	21		ug/L	2		8270D	Total/NA
Ethane	10		1.1		ug/L	1		RSK-175	Total/NA
Methane (TCD)	8300		390		ug/L	1		RSK-175	Total/NA
Iron	0.55		0.050		mg/L	1		6010C	Total/ Recoverable
Manganese	0.079		0.010		mg/L	1		6010C	Total/ Recoverable
Chloride	92		2.0		mg/L	2		325.2	Total/NA
Total Organic Carbon	10		1.0		mg/L	1		415.1	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Alkalinity	820		5.0		mg/L	1		310.1	Total/NA

Client Sample ID: CPA-MW-1D-F(0.2)-0214

Lab Sample ID: 680-98660-2


Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron, Dissolved	0.28		0.050		mg/L	1		6010C	Dissolved
Manganese, Dissolved	0.049		0.010		mg/L	1		6010C	Dissolved
Dissolved Organic Carbon	130		5.0		mg/L	5		415.1	Dissolved

Client Sample ID: 1Q14 LTM Trip Blank #8

Lab Sample ID: 680-98660-3

No Detections.

This Detection Summary does not include radiochemical test results.

MAR 13 2014
TestAmerica Savannah 

Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98660-1
SDG: KPS113

Client Sample ID: CPA-MW-1D-0214

Lab Sample ID: 680-98660-1

Date Collected: 02/14/14 11:20

Matrix: Water

Date Received: 02/15/14 09:28

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	7200		250		ug/L			02/25/14 19:54	250
Chlorobenzene	17000		250		ug/L			02/25/14 19:54	250
1,2-Dichlorobenzene	14000		250		ug/L			02/25/14 19:54	250
1,3-Dichlorobenzene	1200		250		ug/L			02/25/14 19:54	250
1,4-Dichlorobenzene	9300		250		ug/L			02/25/14 19:54	250

Surrogate

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	96		70 - 130		02/25/14 19:54	250
Dibromofluoromethane	92		70 - 130		02/25/14 19:54	250
Toluene-d8 (Surr)	91		70 - 130		02/25/14 19:54	250

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorophenol	20	U	20		ug/L		02/20/14 14:37	02/25/14 14:52	2
1,2,4-Trichlorobenzene	650		20		ug/L		02/20/14 14:37	02/25/14 14:52	2

Surrogate

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	63		38 - 130	02/20/14 14:37	02/25/14 14:52	2
2-Fluorophenol	64		25 - 130	02/20/14 14:37	02/25/14 14:52	2
Nitrobenzene-d5	75		39 - 130	02/20/14 14:37	02/25/14 14:52	2
Phenol-d5	55		25 - 130	02/20/14 14:37	02/25/14 14:52	2
Terphenyl-d14	27		10 - 143	02/20/14 14:37	02/25/14 14:52	2
2,4,6-Tribromophenol	78		31 - 141	02/20/14 14:37	02/25/14 14:52	2

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorophenol	21	U H	21		ug/L		02/24/14 15:35	02/26/14 16:50	2
1,2,4-Trichlorobenzene	510	H	21		ug/L		02/24/14 15:35	02/26/14 16:50	2

Surrogate

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	48		38 - 130	02/24/14 15:35	02/26/14 16:50	2
2-Fluorophenol	58		25 - 130	02/24/14 15:35	02/26/14 16:50	2
Nitrobenzene-d5	58		39 - 130	02/24/14 15:35	02/26/14 16:50	2
Phenol-d5	60		25 - 130	02/24/14 15:35	02/26/14 16:50	2
Terphenyl-d14	29		10 - 143	02/24/14 15:35	02/26/14 16:50	2
2,4,6-Tribromophenol	64		31 - 141	02/24/14 15:35	02/26/14 16:50	2

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	10		1.1		ug/L			02/25/14 14:46	1
Ethylene	1.0	U	1.0		ug/L			02/25/14 14:46	1
Methane (TCD)	8300		390		ug/L			02/25/14 14:46	1

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.55		0.050		mg/L		02/19/14 09:21	02/19/14 21:16	1
Manganese	0.079		0.010		mg/L		02/19/14 09:21	02/19/14 21:16	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	92		2.0		mg/L			02/18/14 12:46	2

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Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98660-1
SDG: KPS113

Client Sample ID: CPA-MW-1D-0214

Lab Sample ID: 680-98660-1

Date Collected: 02/14/14 11:20

Matrix: Water

Date Received: 02/15/14 09:28

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0.050	U * A <i>VS</i>	0.050		mg/L			02/15/14 17:54	1
Sulfate	5.0	U	5.0		mg/L			02/18/14 17:01	1
Total Organic Carbon	10	<i>J</i>	1.0		mg/L			02/20/14 08:34	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	820		5.0		mg/L			02/24/14 18:06	1
Carbon Dioxide, Free	5.0	U	5.0		mg/L			02/24/14 18:06	1

TestAmerica Savannah

MAR 13 2014

Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98660-1
SDG: KPS113

Client Sample ID: CPA-MW-1D-F(0.2)-0214

Lab Sample ID: 680-98660-2

Date Collected: 02/14/14 11:20

Matrix: Water

Date Received: 02/15/14 09:28

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	0.28		0.050		mg/L		02/19/14 09:21	02/19/14 21:21	1
Manganese, Dissolved	0.049		0.010		mg/L		02/19/14 09:21	02/19/14 21:21	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	130		5.0		mg/L			02/20/14 19:40	5

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Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98660-1
SDG: KPS113

Client Sample ID: 1Q14 LTM Trip Blank #8

Lab Sample ID: 680-98660-3

Date Collected: 02/14/14 00:00

Matrix: Water

Date Received: 02/15/14 09:28

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			02/25/14 16:31	1
Chlorobenzene	1.0	U	1.0		ug/L			02/25/14 16:31	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			02/25/14 16:31	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			02/25/14 16:31	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			02/25/14 16:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	96		70 - 130		02/25/14 16:31	1
Dibromofluoromethane	98		70 - 130		02/25/14 16:31	1
Toluene-d8 (Surr)	89		70 - 130		02/25/14 16:31	1

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TestAmerica Savannah

Surrogate Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98660-1
SDG: KPS113

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (70-130)	DBFM (70-130)	TOL (70-130)
680-98660-1	CPA-MW-1D-0214	96	92	91
680-98660-3	1Q14 LTM Trip Blank #8	96	98	89
LCS 680-317055/4	Lab Control Sample	96	86	95
LCSD 680-317055/5	Lab Control Sample Dup	97	88	95
MB 680-317055/9	Method Blank	91	95	89

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (38-130)	2FP (25-130)	NBZ (39-130)	PHL (25-130)	TPH (10-143)	TBP (31-141)
680-98660-1	CPA-MW-1D-0214	63	64	75	55	27	78
680-98660-1 - RE	CPA-MW-1D-0214	48	58	58	60	29	64
LCS 680-316409/5-A	Lab Control Sample	76	71	79	63	85	89
LCS 680-316953/6-A	Lab Control Sample	71	63	67	63	77	75
LCSD 680-316409/6-A	Lab Control Sample Dup	81	69	73	66	82	91
LCSD 680-316953/7-A	Lab Control Sample Dup	79	73	79	72	87	87
MB 680-316409/4-A	Method Blank	81	78	88	77	100	89
MB 680-316953/5-A	Method Blank	70	68	73	73	88	70

Surrogate Legend

FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPH = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

TestAmerica Savannah

MAR 13 2014

QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98660-1
SDG: KPS113

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 680-317055/9
Matrix: Water
Analysis Batch: 317055

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			02/25/14 12:40	1
Chlorobenzene	1.0	U	1.0		ug/L			02/25/14 12:40	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			02/25/14 12:40	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			02/25/14 12:40	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			02/25/14 12:40	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	91		70 - 130		02/25/14 12:40	1
Dibromofluoromethane	95		70 - 130		02/25/14 12:40	1
Toluene-d8 (Surr)	89		70 - 130		02/25/14 12:40	1

Lab Sample ID: LCS 680-317055/4
Matrix: Water
Analysis Batch: 317055

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	51.8		ug/L		104	74 - 123
Chlorobenzene	50.0	45.6		ug/L		91	79 - 120
1,2-Dichlorobenzene	50.0	45.0		ug/L		90	77 - 124
1,3-Dichlorobenzene	50.0	46.5		ug/L		93	79 - 123
1,4-Dichlorobenzene	50.0	45.5		ug/L		91	76 - 124

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	96		70 - 130
Dibromofluoromethane	86		70 - 130
Toluene-d8 (Surr)	95		70 - 130

Lab Sample ID: LCSD 680-317055/5
Matrix: Water
Analysis Batch: 317055

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	50.0	50.9		ug/L		102	74 - 123	2	30
Chlorobenzene	50.0	46.1		ug/L		92	79 - 120	1	30
1,2-Dichlorobenzene	50.0	45.9		ug/L		92	77 - 124	2	30
1,3-Dichlorobenzene	50.0	46.8		ug/L		94	79 - 123	1	30
1,4-Dichlorobenzene	50.0	47.1		ug/L		94	76 - 124	3	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene	97		70 - 130
Dibromofluoromethane	88		70 - 130
Toluene-d8 (Surr)	95		70 - 130

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TestAmerica Savannah

QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98660-1
SDG: KPS113

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 680-316409/4-A
Matrix: Water
Analysis Batch: 317112

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 316409

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorophenol	10	U	10		ug/L		02/20/14 14:37	02/25/14 14:29	1
1,2,4-Trichlorobenzene	10	U	10		ug/L		02/20/14 14:37	02/25/14 14:29	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	81		38 - 130	02/20/14 14:37	02/25/14 14:29	1
2-Fluorophenol	78		25 - 130	02/20/14 14:37	02/25/14 14:29	1
Nitrobenzene-d5	88		39 - 130	02/20/14 14:37	02/25/14 14:29	1
Phenol-d5	77		25 - 130	02/20/14 14:37	02/25/14 14:29	1
Terphenyl-d14	100		10 - 143	02/20/14 14:37	02/25/14 14:29	1
2,4,6-Tribromophenol	89		31 - 141	02/20/14 14:37	02/25/14 14:29	1

Lab Sample ID: LCS 680-316409/5-A
Matrix: Water
Analysis Batch: 316726

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 316409

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
4-Chloroaniline	100	4.41	J*	ug/L		4	42 - 130
2-Chlorophenol	100	75.4		ug/L		75	57 - 130
1,4-Dioxane	100	62.8		ug/L		63	35 - 130
1,2,4-Trichlorobenzene	100	60.3		ug/L		60	42 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	76		38 - 130
2-Fluorophenol	71		25 - 130
Nitrobenzene-d5	79		39 - 130
Phenol-d5	63		25 - 130
Terphenyl-d14	85		10 - 143
2,4,6-Tribromophenol	89		31 - 141

Lab Sample ID: LCSD 680-316409/6-A
Matrix: Water
Analysis Batch: 316726

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 316409

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
4-Chloroaniline	100	60.0	*	ug/L		60	42 - 130	173	50
2-Chlorophenol	100	71.4		ug/L		71	57 - 130	6	50
1,4-Dioxane	100	63.4		ug/L		63	35 - 130	1	50
1,2,4-Trichlorobenzene	100	54.1		ug/L		54	42 - 130	11	50

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl	81		38 - 130
2-Fluorophenol	69		25 - 130
Nitrobenzene-d5	73		39 - 130
Phenol-d5	66		25 - 130
Terphenyl-d14	82		10 - 143
2,4,6-Tribromophenol	91		31 - 141

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QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98660-1
SDG: KPS113

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 680-316953/5-A
Matrix: Water
Analysis Batch: 317351

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 316953

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorophenol	10	U	10		ug/L		02/24/14 15:35	02/26/14 14:24	1
1,2,4-Trichlorobenzene	10	U	10		ug/L		02/24/14 15:35	02/26/14 14:24	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	70		38 - 130	02/24/14 15:35	02/26/14 14:24	1
2-Fluorophenol	68		25 - 130	02/24/14 15:35	02/26/14 14:24	1
Nitrobenzene-d5	73		39 - 130	02/24/14 15:35	02/26/14 14:24	1
Phenol-d5	73		25 - 130	02/24/14 15:35	02/26/14 14:24	1
Terphenyl-d14	88		10 - 143	02/24/14 15:35	02/26/14 14:24	1
2,4,6-Tribromophenol	70		31 - 141	02/24/14 15:35	02/26/14 14:24	1

Lab Sample ID: LCS 680-316953/6-A
Matrix: Water
Analysis Batch: 317351

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 316953

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Chloroaniline	100	54.9		ug/L		55	42 - 130
2-Chlorophenol	100	69.5		ug/L		70	57 - 130
1,4-Dioxane	100	57.7		ug/L		58	35 - 130
1,2,4-Trichlorobenzene	100	49.6		ug/L		50	42 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl	71		38 - 130
2-Fluorophenol	63		25 - 130
Nitrobenzene-d5	67		39 - 130
Phenol-d5	63		25 - 130
Terphenyl-d14	77		10 - 143
2,4,6-Tribromophenol	75		31 - 141

Lab Sample ID: LCSD 680-316953/7-A
Matrix: Water
Analysis Batch: 317351

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 316953

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
4-Chloroaniline	100	56.5		ug/L		56	42 - 130	3	50
2-Chlorophenol	100	81.4		ug/L		81	57 - 130	16	50
1,4-Dioxane	100	64.1		ug/L		64	35 - 130	10	50
1,2,4-Trichlorobenzene	100	59.1		ug/L		59	42 - 130	18	50

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
2-Fluorobiphenyl	79		38 - 130
2-Fluorophenol	73		25 - 130
Nitrobenzene-d5	79		39 - 130
Phenol-d5	72		25 - 130
Terphenyl-d14	87		10 - 143
2,4,6-Tribromophenol	87		31 - 141

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QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98660-1
SDG: KPS113

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 680-317026/8
Matrix: Water
Analysis Batch: 317026

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	1.1	U	1.1		ug/L			02/25/14 11:41	1
Ethylene	1.0	U	1.0		ug/L			02/25/14 11:41	1
Methane	0.58	U	0.58		ug/L			02/25/14 11:41	1
Methane (TCD)	390	U	390		ug/L			02/25/14 11:41	1

Lab Sample ID: LCS 680-317026/4
Matrix: Water
Analysis Batch: 317026

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethane	288	264		ug/L		91	75 - 125
Ethylene	269	254		ug/L		94	75 - 125
Methane	154	131		ug/L		85	75 - 125

Lab Sample ID: LCS 680-317026/5
Matrix: Water
Analysis Batch: 317026

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane (TCD)	1920	1480		ug/L		77	75 - 125

Lab Sample ID: LCSD 680-317026/6
Matrix: Water
Analysis Batch: 317026

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane (TCD)	1920	1870		ug/L		97	75 - 125	24	30

Lab Sample ID: LCSD 680-317026/7
Matrix: Water
Analysis Batch: 317026

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethane	288	275		ug/L		95	75 - 125	4	30
Ethylene	269	260		ug/L		97	75 - 125	2	30
Methane	154	137		ug/L		89	75 - 125	4	30

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 680-316214/1-A
Matrix: Water
Analysis Batch: 316419

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 316214

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.050	U	0.050		mg/L		02/19/14 09:21	02/19/14 20:00	1
Iron, Dissolved	0.050	U	0.050		mg/L		02/19/14 09:21	02/19/14 20:00	1
Manganese	0.010	U	0.010		mg/L		02/19/14 09:21	02/19/14 20:00	1
Manganese, Dissolved	0.010	U	0.010		mg/L		02/19/14 09:21	02/19/14 20:00	1

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QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98660-1
SDG: KPS113

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LCS 680-316214/2-A
Matrix: Water
Analysis Batch: 316419

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 316214

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	5.00	5.15		mg/L		103	75 - 125
Iron, Dissolved	5.00	5.15		mg/L		103	75 - 125
Manganese	0.500	0.536		mg/L		107	75 - 125
Manganese, Dissolved	0.500	0.536		mg/L		107	75 - 125

Method: 310.1 - Alkalinity

Lab Sample ID: MB 680-317049/5
Matrix: Water
Analysis Batch: 317049

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	5.0	U	5.0		mg/L			02/24/14 16:36	1
Carbon Dioxide, Free	5.0	U	5.0		mg/L			02/24/14 16:36	1

Lab Sample ID: LCS 680-317049/6
Matrix: Water
Analysis Batch: 317049

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	250	223		mg/L		89	80 - 120

Lab Sample ID: LCSD 680-317049/32
Matrix: Water
Analysis Batch: 317049

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity	250	241		mg/L		96	80 - 120	8	30

Method: 325.2 - Chloride

Lab Sample ID: MB 680-316243/21
Matrix: Water
Analysis Batch: 316243

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.0	U	1.0		mg/L			02/18/14 12:52	1

Lab Sample ID: LCS 680-316243/20
Matrix: Water
Analysis Batch: 316243

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	25.0	25.8		mg/L		103	85 - 115

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QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98660-1
SDG: KPS113

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 680-316042/13
Matrix: Water
Analysis Batch: 316042

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0.050	U ^	0.050		mg/L			02/15/14 17:36	1

Lab Sample ID: LCS 680-316042/14
Matrix: Water
Analysis Batch: 316042

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	0.500	0.560	^ *	mg/L		112	90 - 110
Nitrate Nitrite as N	1.00	1.06		mg/L		106	90 - 110
Nitrite as N	0.500	0.503		mg/L		101	90 - 110

Method: 375.4 - Sulfate

Lab Sample ID: MB 680-316247/15
Matrix: Water
Analysis Batch: 316247

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	5.0	U	5.0		mg/L			02/18/14 17:29	1

Lab Sample ID: LCS 680-316247/10
Matrix: Water
Analysis Batch: 316247

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	19.8		mg/L		99	75 - 125

Method: 415.1 - DOC

Lab Sample ID: MB 680-316600/85
Matrix: Water
Analysis Batch: 316600

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.0	U	1.0		mg/L			02/20/14 15:52	1

Lab Sample ID: LCS 680-316600/84
Matrix: Water
Analysis Batch: 316600

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	20.0	20.8		mg/L		104	80 - 120

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QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98660-1
SDG: KPS113

Method: 415.1 - TOC

Lab Sample ID: MB 680-316598/26
Matrix: Water
Analysis Batch: 316598

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1.0	U	1.0		mg/L			02/20/14 00:21	1

Lab Sample ID: LCS 680-316598/33
Matrix: Water
Analysis Batch: 316598

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	20.0	20.7		mg/L		104	80 - 120

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QC Association Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98660-1
SDG: KPS113

GC/MS VOA

Analysis Batch: 317055

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98660-1	CPA-MW-1D-0214	Total/NA	Water	8260B	
680-98660-3	1Q14 LTM Trip Blank #8	Total/NA	Water	8260B	
LCS 680-317055/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-317055/5	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-317055/9	Method Blank	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 316409

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98660-1	CPA-MW-1D-0214	Total/NA	Water	3520C	
LCS 680-316409/5-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 680-316409/6-A	Lab Control Sample Dup	Total/NA	Water	3520C	
MB 680-316409/4-A	Method Blank	Total/NA	Water	3520C	

Analysis Batch: 316726

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 680-316409/5-A	Lab Control Sample	Total/NA	Water	8270D	316409
LCSD 680-316409/6-A	Lab Control Sample Dup	Total/NA	Water	8270D	316409

Prep Batch: 316953

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98660-1 - RE	CPA-MW-1D-0214	Total/NA	Water	3520C	
LCS 680-316953/6-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 680-316953/7-A	Lab Control Sample Dup	Total/NA	Water	3520C	
MB 680-316953/5-A	Method Blank	Total/NA	Water	3520C	

Analysis Batch: 317112

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98660-1	CPA-MW-1D-0214	Total/NA	Water	8270D	316409
MB 680-316409/4-A	Method Blank	Total/NA	Water	8270D	316409

Analysis Batch: 317351

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98660-1 - RE	CPA-MW-1D-0214	Total/NA	Water	8270D	316953
LCS 680-316953/6-A	Lab Control Sample	Total/NA	Water	8270D	316953
LCSD 680-316953/7-A	Lab Control Sample Dup	Total/NA	Water	8270D	316953
MB 680-316953/5-A	Method Blank	Total/NA	Water	8270D	316953

GC VOA

Analysis Batch: 317026

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98660-1	CPA-MW-1D-0214	Total/NA	Water	RSK-175	
LCS 680-317026/4	Lab Control Sample	Total/NA	Water	RSK-175	
LCS 680-317026/5	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 680-317026/6	Lab Control Sample Dup	Total/NA	Water	RSK-175	
LCSD 680-317026/7	Lab Control Sample Dup	Total/NA	Water	RSK-175	
MB 680-317026/8	Method Blank	Total/NA	Water	RSK-175	

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QC Association Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98660-1
SDG: KPS113

Metals

Prep Batch: 316214

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98660-1	CPA-MW-1D-0214	Total Recoverable	Water	3005A	
680-98660-2	CPA-MW-1D-F(0.2)-0214	Dissolved	Water	3005A	
LCS 680-316214/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 680-316214/1-A	Method Blank	Total Recoverable	Water	3005A	

Analysis Batch: 316419

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98660-1	CPA-MW-1D-0214	Total Recoverable	Water	6010C	316214
680-98660-2	CPA-MW-1D-F(0.2)-0214	Dissolved	Water	6010C	316214
LCS 680-316214/2-A	Lab Control Sample	Total Recoverable	Water	6010C	316214
MB 680-316214/1-A	Method Blank	Total Recoverable	Water	6010C	316214

General Chemistry

Analysis Batch: 316042

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98660-1	CPA-MW-1D-0214	Total/NA	Water	353.2	
LCS 680-316042/14	Lab Control Sample	Total/NA	Water	353.2	
MB 680-316042/13	Method Blank	Total/NA	Water	353.2	

Analysis Batch: 316243

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98660-1	CPA-MW-1D-0214	Total/NA	Water	325.2	
LCS 680-316243/20	Lab Control Sample	Total/NA	Water	325.2	
MB 680-316243/21	Method Blank	Total/NA	Water	325.2	

Analysis Batch: 316247

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98660-1	CPA-MW-1D-0214	Total/NA	Water	375.4	
LCS 680-316247/10	Lab Control Sample	Total/NA	Water	375.4	
MB 680-316247/15	Method Blank	Total/NA	Water	375.4	

Analysis Batch: 316598

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98660-1	CPA-MW-1D-0214	Total/NA	Water	415.1	
LCS 680-316598/33	Lab Control Sample	Total/NA	Water	415.1	
MB 680-316598/26	Method Blank	Total/NA	Water	415.1	

Analysis Batch: 316600

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98660-2	CPA-MW-1D-F(0.2)-0214	Dissolved	Water	415.1	
LCS 680-316600/84	Lab Control Sample	Dissolved	Water	415.1	
MB 680-316600/85	Method Blank	Dissolved	Water	415.1	

Analysis Batch: 317049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98660-1	CPA-MW-1D-0214	Total/NA	Water	310.1	
LCS 680-317049/6	Lab Control Sample	Total/NA	Water	310.1	
LCSD 680-317049/32	Lab Control Sample Dup	Total/NA	Water	310.1	
MB 680-317049/5	Method Blank	Total/NA	Water	310.1	

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Lab Chronicle

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98660-1
SDG: KPS113

Client Sample ID: CPA-MW-1D-0214

Lab Sample ID: 680-98660-1

Date Collected: 02/14/14 11:20

Matrix: Water

Date Received: 02/15/14 09:28

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		250	317055	02/25/14 19:54	MMT	TAL SAV
Total/NA	Prep	3520C			316409	02/20/14 14:37	RBS	TAL SAV
Total/NA	Analysis	8270D		2	317112	02/25/14 14:52	SMC	TAL SAV
Total/NA	Prep	3520C	RE		316953	02/24/14 15:35	RBS	TAL SAV
Total/NA	Analysis	8270D	RE	2	317351	02/26/14 16:50	SMC	TAL SAV
Total/NA	Analysis	RSK-175		1	317026	02/25/14 14:46	TAR	TAL SAV
Total Recoverable	Prep	3005A			316214	02/19/14 09:21	BJB	TAL SAV
Total Recoverable	Analysis	6010C		1	316419	02/19/14 21:16	BCB	TAL SAV
Total/NA	Analysis	353.2		1	316042	02/15/14 17:54	GRX	TAL SAV
Total/NA	Analysis	325.2		2	316243	02/18/14 12:46	JME	TAL SAV
Total/NA	Analysis	375.4		1	316247	02/18/14 17:01	JME	TAL SAV
Total/NA	Analysis	415.1		1	316598	02/20/14 08:34	CMP	TAL SAV
Total/NA	Analysis	310.1		1	317049	02/24/14 18:06	LBH	TAL SAV

Client Sample ID: CPA-MW-1D-F(0.2)-0214

Lab Sample ID: 680-98660-2

Date Collected: 02/14/14 11:20

Matrix: Water

Date Received: 02/15/14 09:28

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			316214	02/19/14 09:21	BJB	TAL SAV
Dissolved	Analysis	6010C		1	316419	02/19/14 21:21	BCB	TAL SAV
Dissolved	Analysis	415.1		5	316600	02/20/14 19:40	CMP	TAL SAV

Client Sample ID: 1Q14 LTM Trip Blank #8

Lab Sample ID: 680-98660-3

Date Collected: 02/14/14 00:00

Matrix: Water

Date Received: 02/15/14 09:28

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	317055	02/25/14 16:31	MMT	TAL SAV

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

TestAmerica Savannah

MAR 13 2014

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Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact		Project Manager: Bob Billman		Site Contact: Michael Corbett		COC No:	
URS Corporation		Tel/Fax: (314) 743-4108		Lab Contact: Michele Kersey		1 of 1 COCs	
1001 Highlands Plaza Drive West, Suite 300		Analysis Turnaround Time		Carrier: FedEx		21563600.00001	
St. Louis, MO 63110		Calendar (C) or Work Days (W) <u>C</u>				SDG No.	
(314) 429-0100 Phone		TAT if different from Below <u>Standard</u>					
(314) 429-0462 FAX		<input type="checkbox"/> 2 weeks					
Project Name: 1Q14 LTM GW Sampling		<input type="checkbox"/> 1 week					
Site: Solutia WG Krummrich Facility		<input type="checkbox"/> 2 days					
P O #		<input type="checkbox"/> 1 day					
Sample Identification		Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Sample Specific Notes:
CPA-MW-2D -0214 ✓		2/14/14	1120	G	Water	16	
CPA-MW-2D-F(0.2)-0214 ✓		2/14/14	1120	G	Water	2	
1Q14 LTM Trip Blank # 8 ✓		2/14/14			Water	2	
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other							
Possible Hazard Identification							
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Ion B <input type="checkbox"/> Other							
Special Instructions/QC Requirements & Comments:							
Relinquished by: <u>M. Kersey</u>		Company: URS	Date/Time: 2/14/14 1300	Received by:		Company:	Date/Time:
Relinquished by:		Company:	Date/Time:	Received by:		Company:	Date/Time:
Relinquished by:		Company:	Date/Time:	Received by: <u>Theresa Co</u>		Company: <u>TA W</u>	Date/Time: 02/15/14 0928

Login Sample Receipt Checklist

Client: Solutia Inc.

Job Number: 680-98660-1

SDG Number: KPS113

Login Number: 98660

List Source: TestAmerica Savannah

List Number: 1

Creator: Conner, Keaton

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	line B2 ph needs to be adju.
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Certification Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98660-1
SDG: KPS113

Laboratory: TestAmerica Savannah

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
	AFCEE		SAVLAB	
A2LA	DoD ELAP		399.01	02-28-15
A2LA	ISO/IEC 17025		399.01	02-28-15
Alabama	State Program	4	41450	06-30-14
Arkansas DEQ	State Program	6	88-0692	01-31-15
California	NELAP	9	3217CA	07-31-14
Colorado	State Program	8	N/A	12-31-14
Connecticut	State Program	1	PH-0161	03-31-15
Florida	NELAP	4	E87052	06-30-14
GA Dept. of Agriculture	State Program	4	N/A	06-30-14
Georgia	State Program	4	N/A	06-30-14
Georgia	State Program	4	803	06-30-14
Guam	State Program	9	09-005r	04-17-14
Hawaii	State Program	9	N/A	06-30-14
Illinois	NELAP	5	200022	11-30-14
Indiana	State Program	5	N/A	06-30-14
Iowa	State Program	7	353	07-01-15
Kentucky (DW)	State Program	4	90084	12-31-14
Kentucky (UST)	State Program	4	18	06-30-14
Louisiana	NELAP	6	LA100015	12-31-14
Maine	State Program	1	GA00006	08-16-14
Maryland	State Program	3	250	12-31-14
Massachusetts	State Program	1	M-GA006	06-30-14
Michigan	State Program	5	9925	06-30-14
Mississippi	State Program	4	N/A	06-30-14
Montana	State Program	8	CERT0081	01-01-15
Nebraska	State Program	7	TestAmerica-Savannah	06-30-14
New Jersey	NELAP	2	GA769	06-30-14
New Mexico	State Program	6	N/A	06-30-14
New York	NELAP	2	10842	03-31-14
North Carolina DENR	State Program	4	269	12-31-14
North Carolina DHHS	State Program	4	13701	07-31-14
Oklahoma	State Program	6	9984	08-31-14
Pennsylvania	NELAP	3	68-00474	06-30-14
Puerto Rico	State Program	2	GA00006	12-31-14
South Carolina	State Program	4	98001	06-30-14
Tennessee	State Program	4	TN02961	06-30-14
Texas	NELAP	6	T104704185-08-TX	11-30-14
USDA	Federal		SAV 3-04	04-07-14
Virginia	NELAP	3	460161	06-14-14
Washington	State Program	10	C1794	06-10-14
West Virginia DEP	State Program	3	94	06-30-14
West Virginia DHHR	State Program	3	9950C	12-31-14
Wisconsin	State Program	5	999819810	08-31-14
Wyoming	State Program	8	8TMS-L	06-30-14

TestAmerica Savannah

MAR 18 2014



Solutia Krummrich Data Review WGK LTM 1Q14

Laboratory SDG: KPS114

Data Reviewer: Melissa Mansker

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 3/13/2014

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2008. USEPA National Functional Guidelines for Superfund Inorganic Data Review 2010

Work Plan: Revised Long-Term Monitoring Program (LTMP) Work Plan (Solutia 2009)

Sample Identification	
GWE-3D-0214	GWE-3D-F(0.2)-0214
LTM Trip Blank #9	

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated samples were diluted due to high levels of target analytes. This issue is addressed further in the appropriate section below.

The cooler receipt form indicated that two of two coolers were received by the laboratory at temperatures of 0.2°C and 0.8°C which is outside the 4°C ± 2°C criteria. The samples were received in good condition; therefore no qualification of data was required.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

No

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

Yes

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples collected as part of this SDG?

Yes, although not requested, sample GWE-3D-F(0.2)-0214 was spiked and analyzed for dissolved organic carbon.

Were MS/MSD recoveries within evaluation criteria?

Yes

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

No

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

10.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

11.0 Additional Qualifications

Were additional qualifications applied?

No

SDG KPS114

Results of Samples from Monitoring Well:

GWE-3D

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

TestAmerica Job ID: 680-98737-1
TestAmerica Sample Delivery Group: KPS114
Client Project/Site: WGK Long Term Monitoring - 1Q14

For:
Solutia Inc.
575 Maryville Centre Dr.
Saint Louis, Missouri 63141

Attn: Mr. Jerry Rinaldi

Michele Kersey

Authorized for release by:
3/4/2014 4:46:38 PM

Michele Kersey, Project Manager I
(912)354-7858
michele.kersey@testamericainc.com

LINKS

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Reviewed on
MAR 13 2014
MM

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.


This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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MAR 13 2014 

Case Narrative

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98737-1
SDG: KPS114

Job ID: 680-98737-1

Laboratory: TestAmerica Savannah

Narrative

CASE NARRATIVE

Client: Solutia Inc.

Project: WGK Long Term Monitoring - 1Q14

Report Number: 680-98737-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT

The samples were received on 2/19/2014 9:36 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 0.2° C and 0.8° C.

VOLATILE ORGANIC COMPOUNDS (GC-MS)

Samples GWE-3D-0214 (680-98737-1) and LTM Trip Blank #9 (680-98737-3) were analyzed for Volatile Organic Compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 02/26/2014 and 02/27/2014.

Sample GWE-3D-0214 (680-98737-1)[25X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No difficulties were encountered during the volatiles analysis.

All quality control parameters were within the acceptance limits.

DISSOLVED GASES

Sample GWE-3D-0214 (680-98737-1) was analyzed for dissolved gases in accordance with RSK-175. The samples were analyzed on 02/26/2014.

No difficulties were encountered during the dissolved gases analysis.

All quality control parameters were within the acceptance limits.

METALS (ICP)

Sample GWE-3D-F(0.2)-0214 (680-98737-2) was analyzed for Metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 02/20/2014 and analyzed on 02/25/2014.

No difficulties were encountered during the metals analysis.

All quality control parameters were within the acceptance limits.

METALS (ICP)

Sample GWE-3D-0214 (680-98737-1) was analyzed for Metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 02/20/2014 and analyzed on 02/25/2014.

No difficulties were encountered during the metals analysis.

All quality control parameters were within the acceptance limits.

MAR 13 2014

Case Narrative

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98737-1
SDG: KPS114

Job ID: 680-98737-1 (Continued)

Laboratory: TestAmerica Savannah (Continued)

ALKALINITY

Sample GWE-3D-0214 (680-98737-1) was analyzed for alkalinity in accordance with EPA Method 310.1. The samples were analyzed on 02/24/2014.

No difficulties were encountered during the alkalinity analysis.

All quality control parameters were within the acceptance limits.

CHLORIDE

Sample GWE-3D-0214 (680-98737-1) was analyzed for Chloride in accordance with EPA Method 325.2. The samples were analyzed on 02/25/2014.

Sample GWE-3D-0214 (680-98737-1)[10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No difficulties were encountered during the chloride analysis.

All quality control parameters were within the acceptance limits.

NITRATE-NITRITE AS NITROGEN

Sample GWE-3D-0214 (680-98737-1) was analyzed for nitrate-nitrite as nitrogen in accordance with EPA Method 353.2. The samples were analyzed on 02/19/2014.

No difficulties were encountered during the nitrate-nitrite analysis.

All quality control parameters were within the acceptance limits.

SULFATE

Sample GWE-3D-0214 (680-98737-1) was analyzed for sulfate in accordance with EPA Method 375.4. The samples were analyzed on 02/25/2014.

Sample GWE-3D-0214 (680-98737-1)[10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No difficulties were encountered during the sulfate analysis.

All quality control parameters were within the acceptance limits.

TOTAL ORGANIC CARBON

Sample GWE-3D-0214 (680-98737-1) was analyzed for total organic carbon in accordance with EPA Method 415.1. The samples were analyzed on 03/03/2014.

No difficulties were encountered during the TOC analysis.

All quality control parameters were within the acceptance limits.

DISSOLVED ORGANIC CARBON (DOC)

Sample GWE-3D-F(0.2)-0214 (680-98737-2) was analyzed for Dissolved Organic Carbon (DOC) in accordance with EPA Method 415.1. The samples were analyzed on 02/26/2014.

No difficulties were encountered during the DOC analysis.

All quality control parameters were within the acceptance limits.

MAR 13 2014



Sample Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98737-1
SDG: KPS114

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-98737-1	GWE-3D-0214 ✓	Water	02/18/14 12:25	02/19/14 09:36
680-98737-2	GWE-3D-F(0.2)-0214 ✓	Water	02/18/14 12:25	02/19/14 09:36
680-98737-3	LTM Trip Blank #9 ✓	Water	02/18/14 00:00	02/19/14 09:36



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MAR 13 2014

Method Summary

Client: Solutia Inc.

Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98737-1

SDG: KPS114

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL SAV
RSK-175	Dissolved Gases (GC)	RSK	TAL SAV
6010C	Metals (ICP)	SW846	TAL SAV
310.1	Alkalinity	MCAWW	TAL SAV
325.2	Chloride	MCAWW	TAL SAV
353.2	Nitrogen, Nitrate-Nitrite	MCAWW	TAL SAV
375.4	Sulfate	MCAWW	TAL SAV
415.1	TOC	MCAWW	TAL SAV
415.1	DDC	MCAWW	TAL SAV

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.


RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

TestAmerica Savannah

MAR 13 2014 

Definitions/Glossary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98737-1
SDG: KPS114

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

GC VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

General Chemistry

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

TestAmerica Savannah

MAR 13 2014

Detection Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98737-1
SDG: KPS114

Client Sample ID: GWE-3D-0214

Lab Sample ID: 680-98737-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	57		25		ug/L	25		8260B	Total/NA
Chlorobenzene	2200		25		ug/L	25		8260B	Total/NA
1,2-Dichlorobenzene	28		25		ug/L	25		8260B	Total/NA
1,4-Dichlorobenzene	240		25		ug/L	25		8260B	Total/NA
Methane	90		0.58		ug/L	1		RSK-175	Total/NA
Iron	17		0.050		mg/L	1		6010C	Total
									Recoverable
Manganese	0.54		0.010		mg/L	1		6010C	Total
									Recoverable
Chloride	310		10		mg/L	10		325.2	Total/NA
Sulfate	330		50		mg/L	10		375.4	Total/NA
Total Organic Carbon	4.5		1.0		mg/L	1		415.1	Total/NA
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Alkalinity	400		5.0		mg/L	1		310.1	Total/NA
Carbon Dioxide, Free	30		5.0		mg/L	1		310.1	Total/NA

Client Sample ID: GWE-3D-F(0.2)-0214

Lab Sample ID: 680-98737-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron, Dissolved	16		0.050		mg/L	1		6010C	Dissolved
Manganese, Dissolved	0.53		0.010		mg/L	1		6010C	Dissolved
Dissolved Organic Carbon	4.7		1.0		mg/L	1		415.1	Dissolved


Client Sample ID: LTM Trip Blank #9

Lab Sample ID: 680-98737-3

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Savannah

MAR 13 2014 

Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98737-1
SDG: KPS114

Client Sample ID: GWE-3D-0214

Lab Sample ID: 680-98737-1

Date Collected: 02/18/14 12:25

Matrix: Water

Date Received: 02/19/14 09:36

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	57		25		ug/L			02/26/14 15:25	25
Chlorobenzene	2200		25		ug/L			02/26/14 15:25	25
1,2-Dichlorobenzene	28		25		ug/L			02/26/14 15:25	25
1,3-Dichlorobenzene	25	U	25		ug/L			02/26/14 15:25	25
1,4-Dichlorobenzene	240		25		ug/L			02/26/14 15:25	25

Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	102		70 - 130					02/26/14 15:25	25
Dibromofluoromethane	90		70 - 130					02/26/14 15:25	25
Toluene-d8 (Surr)	98		70 - 130					02/26/14 15:25	25

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	1.1	U	1.1		ug/L			02/26/14 17:20	1
Ethylene	1.0	U	1.0		ug/L			02/26/14 17:20	1
Methane	90		0.58		ug/L			02/26/14 17:20	1

Method: 6010C - Metals (ICP) - Total Recoverable


Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	17		0.050		mg/L		02/20/14 16:48	02/25/14 18:26	1
Manganese	0.54		0.010		mg/L		02/20/14 16:48	02/25/14 18:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	310		10		mg/L			02/25/14 14:02	10
Nitrate as N	0.050	U	0.050		mg/L			02/19/14 13:54	1
Sulfate	330		50		mg/L			02/25/14 13:53	10
Total Organic Carbon	4.5		1.0		mg/L			03/03/14 05:27	1

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	400		5.0		mg/L			02/24/14 17:12	1
Carbon Dioxide, Free	30		5.0		mg/L			02/24/14 17:12	1

TestAmerica Savannah

MAR 13 2014 

Client Sample Results

Client: Solutia Inc.

Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98737-1

SDG: KPS114

Client Sample ID: GWE-3D-F(0.2)-0214

Lab Sample ID: 680-98737-2

Date Collected: 02/18/14 12:25

Matrix: Water

Date Received: 02/19/14 09:36

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	16		0.050		mg/L		02/20/14 16:48	02/25/14 18:30	1
Manganese, Dissolved	0.53		0.010		mg/L		02/20/14 16:48	02/25/14 18:30	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	4.7		1.0		mg/L			02/26/14 17:58	1

TestAmerica Savannah

MAR 13 2014

Handwritten signature

Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98737-1
SDG: KPS114

Client Sample ID: LTM Trip Blank #9

Lab Sample ID: 680-98737-3

Date Collected: 02/18/14 00:00

Matrix: Water

Date Received: 02/19/14 09:36

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			02/27/14 17:42	1
Chlorobenzene	1.0	U	1.0		ug/L			02/27/14 17:42	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			02/27/14 17:42	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			02/27/14 17:42	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			02/27/14 17:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	86		70 - 130					02/27/14 17:42	1
Dibromofluoromethane	102		70 - 130					02/27/14 17:42	1
Toluene-d8 (Surr)	91		70 - 130					02/27/14 17:42	1

TestAmerica Savannah

MAR 13 2014

Handwritten signature

Surrogate Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98737-1
SDG: KPS114

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (70-130)	DBFM (70-130)	TOL (70-130)
680-98737-1	GWE-3D-0214	102	90	98
680-98737-3	LTM Trip Blank #9	86	102	91
LCS 680-317263/4	Lab Control Sample	99	85	103
LCS 680-317585/4	Lab Control Sample	85	96	95
LCSD 680-317263/5	Lab Control Sample Dup	97	84	99
LCSD 680-317585/5	Lab Control Sample Dup	87	96	99
MB 680-317263/9	Method Blank	99	93	98
MB 680-317585/8	Method Blank	89	101	90

Surrogate Legend

BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)

TestAmerica Savannah

MAR 13 2014

QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98737-1
SDG: KPS114

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 680-317263/9

Matrix: Water

Analysis Batch: 317263

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	2.0	U	2.0		ug/L			02/26/14 13:13	2
Chlorobenzene	2.0	U	2.0		ug/L			02/26/14 13:13	2
1,2-Dichlorobenzene	2.0	U	2.0		ug/L			02/26/14 13:13	2
1,3-Dichlorobenzene	2.0	U	2.0		ug/L			02/26/14 13:13	2
1,4-Dichlorobenzene	2.0	U	2.0		ug/L			02/26/14 13:13	2

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	99		70 - 130		02/26/14 13:13	2
Dibromofluoromethane	93		70 - 130		02/26/14 13:13	2
Toluene-d8 (Surr)	98		70 - 130		02/26/14 13:13	2

Lab Sample ID: LCS 680-317263/4

Matrix: Water

Analysis Batch: 317263

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	50.2		ug/L		100	74 - 123
Chlorobenzene	50.0	46.1		ug/L		92	79 - 120
1,2-Dichlorobenzene	50.0	46.8		ug/L		94	77 - 124
1,3-Dichlorobenzene	50.0	47.5		ug/L		95	79 - 123
1,4-Dichlorobenzene	50.0	46.5		ug/L		93	76 - 124

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	99		70 - 130
Dibromofluoromethane	85		70 - 130
Toluene-d8 (Surr)	103		70 - 130

Lab Sample ID: LCSD 680-317263/5

Matrix: Water

Analysis Batch: 317263

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	50.0	48.5		ug/L		97	74 - 123	3	30
Chlorobenzene	50.0	45.4		ug/L		91	79 - 120	1	30
1,2-Dichlorobenzene	50.0	47.6		ug/L		95	77 - 124	2	30
1,3-Dichlorobenzene	50.0	48.4		ug/L		97	79 - 123	2	30
1,4-Dichlorobenzene	50.0	47.8		ug/L		96	76 - 124	3	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene	97		70 - 130
Dibromofluoromethane	84		70 - 130
Toluene-d8 (Surr)	99		70 - 130

TestAmerica Savannah

QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98737-1
SDG: KPS114

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 680-317585/8

Matrix: Water

Analysis Batch: 317585

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			02/27/14 16:44	1
Chlorobenzene	1.0	U	1.0		ug/L			02/27/14 16:44	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			02/27/14 16:44	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			02/27/14 16:44	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			02/27/14 16:44	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	89		70 - 130		02/27/14 16:44	1
Dibromofluoromethane	101		70 - 130		02/27/14 16:44	1
Toluene-d8 (Surr)	90		70 - 130		02/27/14 16:44	1

Lab Sample ID: LCS 680-317585/4

Matrix: Water

Analysis Batch: 317585

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	48.3		ug/L		97	74 - 123
Chlorobenzene	50.0	47.7		ug/L		95	79 - 120
1,2-Dichlorobenzene	50.0	47.5		ug/L		95	77 - 124
1,3-Dichlorobenzene	50.0	48.3		ug/L		97	79 - 123
1,4-Dichlorobenzene	50.0	47.8		ug/L		96	76 - 124

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	85		70 - 130
Dibromofluoromethane	96		70 - 130
Toluene-d8 (Surr)	95		70 - 130

Lab Sample ID: LCSD 680-317585/5

Matrix: Water

Analysis Batch: 317585

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	50.0	50.2		ug/L		100	74 - 123	4	30
Chlorobenzene	50.0	49.5		ug/L		99	79 - 120	4	30
1,2-Dichlorobenzene	50.0	49.0		ug/L		98	77 - 124	3	30
1,3-Dichlorobenzene	50.0	49.7		ug/L		99	79 - 123	3	30
1,4-Dichlorobenzene	50.0	48.6		ug/L		97	76 - 124	2	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene	87		70 - 130
Dibromofluoromethane	96		70 - 130
Toluene-d8 (Surr)	99		70 - 130

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M

QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98737-1
SDG: KPS114

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 680-317227/8
Matrix: Water
Analysis Batch: 317227

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	1.1	U	1.1		ug/L			02/26/14 15:27	1
Ethylene	1.0	U	1.0		ug/L			02/26/14 15:27	1
Methane	0.58	U	0.58		ug/L			02/26/14 15:27	1
Methane (TCD)	390	U	390		ug/L			02/26/14 15:27	1

Lab Sample ID: LCS 680-317227/3
Matrix: Water
Analysis Batch: 317227

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethane	288	300		ug/L		104	75 - 125
Ethylene	269	290		ug/L		108	75 - 125
Methane	154	147		ug/L		96	75 - 125

Lab Sample ID: LCS 680-317227/5
Matrix: Water
Analysis Batch: 317227

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane (TCD)	1920	1970		ug/L		102	75 - 125

Lab Sample ID: LCSD 680-317227/4
Matrix: Water
Analysis Batch: 317227

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethane	288	293		ug/L		101	75 - 125	2	30
Ethylene	269	282		ug/L		105	75 - 125	3	30
Methane	154	145		ug/L		94	75 - 125	2	30

Lab Sample ID: LCSD 680-317227/6
Matrix: Water
Analysis Batch: 317227

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane (TCD)	1920	2000		ug/L		104	75 - 125	2	30

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 680-316575/1-A
Matrix: Water
Analysis Batch: 317292

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 316575

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.050	U	0.050		mg/L		02/20/14 16:48	02/25/14 18:17	1
Iron, Dissolved	0.050	U	0.050		mg/L		02/20/14 16:48	02/25/14 18:17	1
Manganese	0.010	U	0.010		mg/L		02/20/14 16:48	02/25/14 18:17	1
Manganese, Dissolved	0.010	U	0.010		mg/L		02/20/14 16:48	02/25/14 18:17	1

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QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98737-1
SDG: KPS114

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LCS 680-316575/2-A
Matrix: Water
Analysis Batch: 317292

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 316575

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
Iron	5.00	5.24		mg/L		105	75 - 125	
Iron, Dissolved	5.00	5.24		mg/L		105	75 - 125	
Manganese	0.500	0.548		mg/L		110	75 - 125	
Manganese, Dissolved	0.500	0.548		mg/L		110	75 - 125	

Method: 310.1 - Alkalinity

Lab Sample ID: MB 680-317049/5
Matrix: Water
Analysis Batch: 317049

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Alkalinity	5.0	U	5.0		mg/L			02/24/14 16:36	1
Carbon Dioxide, Free	5.0	U	5.0		mg/L			02/24/14 16:36	1

Lab Sample ID: LCS 680-317049/6
Matrix: Water
Analysis Batch: 317049

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
Alkalinity	250	223		mg/L		89	80 - 120	

Lab Sample ID: LCSD 680-317049/32
Matrix: Water
Analysis Batch: 317049

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits		RPD	Limit
Alkalinity	250	241		mg/L		96	80 - 120		8	30

Method: 325.2 - Chloride

Lab Sample ID: MB 680-317298/26
Matrix: Water
Analysis Batch: 317298

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Chloride	1.0	U	1.0		mg/L			02/25/14 12:48	1

Lab Sample ID: LCS 680-317298/18
Matrix: Water
Analysis Batch: 317298

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
Chloride	25.0	26.3		mg/L		105	85 - 115	

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QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98737-1
SDG: KPS114

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 680-316308/13
Matrix: Water
Analysis Batch: 316308

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0.050	U	0.050		mg/L			02/19/14 13:36	1

Lab Sample ID: LCS 680-316308/14
Matrix: Water
Analysis Batch: 316308

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	0.500	0.526		mg/L		105	90 - 110
Nitrate Nitrite as N	1.00	1.02		mg/L		102	90 - 110
Nitrite as N	0.500	0.492		mg/L		98	90 - 110

Method: 375.4 - Sulfate

Lab Sample ID: MB 680-317304/8
Matrix: Water
Analysis Batch: 317304

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	5.0	U	5.0		mg/L			02/25/14 13:55	1

Lab Sample ID: LCS 680-317304/7
Matrix: Water
Analysis Batch: 317304

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	20.8		mg/L		104	75 - 125

Method: 415.1 - DOC

Lab Sample ID: MB 680-317615/2-A
Matrix: Water
Analysis Batch: 317610

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.0	U	1.0		mg/L			02/26/14 17:27	1

Lab Sample ID: LCS 680-317615/1-A
Matrix: Water
Analysis Batch: 317610

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	20.0	20.4		mg/L		102	80 - 120

Lab Sample ID: 680-98737-2 MS
Matrix: Water
Analysis Batch: 317610

Client Sample ID: GWE-3D-F(0.2)-0214
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	4.7		20.0	25.6		mg/L		105	80 - 120

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QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98737-1
SDG: KPS114

Method: 415.1 - DOC (Continued)

Lab Sample ID: 680-98737-2 MSD
Matrix: Water
Analysis Batch: 317610

Client Sample ID: GWE-3D-F(0.2)-0214
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	4.7		20.0	25.2		mg/L		103	80 - 120	1	20

Method: 415.1 - TOC

Lab Sample ID: MB 680-318039/26
Matrix: Water
Analysis Batch: 318039

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1.0	U	1.0		mg/L			03/03/14 00:43	1

Lab Sample ID: LCS 680-318039/34
Matrix: Water
Analysis Batch: 318039

Client Sample ID: Lab Control Sample
Prep Type: Total/NA


Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	20.0	21.1		mg/L		105	80 - 120

Lab Sample ID: LCSD 680-318039/35
Matrix: Water
Analysis Batch: 318039

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	20.0	20.7		mg/L		103	80 - 120	2	25

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QC Association Summary

Client: Solutia Inc.
Project/Site: W GK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98737-1
SDG: KPS114

GC/MS VOA

Analysis Batch: 317263

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98737-1	GWE-3D-0214	Total/NA	Water	8260B	
LCS 680-317263/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-317263/5	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-317263/9	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 317585

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98737-3	LTM Trip Blank #9	Total/NA	Water	8260B	
LCS 680-317585/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-317585/5	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-317585/8	Method Blank	Total/NA	Water	8260B	

GC VOA

Analysis Batch: 317227

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98737-1	GWE-3D-0214	Total/NA	Water	RSK-175	
LCS 680-317227/3	Lab Control Sample	Total/NA	Water	RSK-175	
LCS 680-317227/5	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 680-317227/4	Lab Control Sample Dup	Total/NA	Water	RSK-175	
LCSD 680-317227/6	Lab Control Sample Dup	Total/NA	Water	RSK-175	
MB 680-317227/8	Method Blank	Total/NA	Water	RSK-175	

Metals

Prep Batch: 316575

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98737-1	GWE-3D-0214	Total Recoverable	Water	3005A	
680-98737-2	GWE-3D-F(0.2)-0214	Dissolved	Water	3005A	
LCS 680-316575/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 680-316575/1-A	Method Blank	Total Recoverable	Water	3005A	

Analysis Batch: 317292

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98737-1	GWE-3D-0214	Total Recoverable	Water	6010C	316575
680-98737-2	GWE-3D-F(0.2)-0214	Dissolved	Water	6010C	316575
LCS 680-316575/2-A	Lab Control Sample	Total Recoverable	Water	6010C	316575
MB 680-316575/1-A	Method Blank	Total Recoverable	Water	6010C	316575

General Chemistry

Analysis Batch: 316308

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98737-1	GWE-3D-0214	Total/NA	Water	353.2	
LCS 680-316308/14	Lab Control Sample	Total/NA	Water	353.2	
MB 680-316308/13	Method Blank	Total/NA	Water	353.2	

Analysis Batch: 317049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98737-1	GWE-3D-0214	Total/NA	Water	310.1	

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QC Association Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98737-1
SDG: KPS114

General Chemistry (Continued)

Analysis Batch: 317049 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 680-317049/6	Lab Control Sample	Total/NA	Water	310.1	
LCSD 680-317049/32	Lab Control Sample Dup	Total/NA	Water	310.1	
MB 680-317049/5	Method Blank	Total/NA	Water	310.1	

Analysis Batch: 317298

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98737-1	GWE-3D-0214	Total/NA	Water	325.2	
LCS 680-317298/18	Lab Control Sample	Total/NA	Water	325.2	
MB 680-317298/26	Method Blank	Total/NA	Water	325.2	

Analysis Batch: 317304

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98737-1	GWE-3D-0214	Total/NA	Water	375.4	
LCS 680-317304/7	Lab Control Sample	Total/NA	Water	375.4	
MB 680-317304/8	Method Blank	Total/NA	Water	375.4	

Analysis Batch: 317610

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98737-2	GWE-3D-F(0.2)-0214	Dissolved	Water	415.1	
680-98737-2 MS	GWE-3D-F(0.2)-0214	Dissolved	Water	415.1	
680-98737-2 MSD	GWE-3D-F(0.2)-0214	Dissolved	Water	415.1	
LCS 680-317615/1-A	Lab Control Sample	Dissolved	Water	415.1	317615
MB 680-317615/2-A	Method Blank	Dissolved	Water	415.1	317615

Filtration Batch: 317615

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 680-317615/1-A	Lab Control Sample	Dissolved	Water	FILTRATION	
MB 680-317615/2-A	Method Blank	Dissolved	Water	FILTRATION	

Analysis Batch: 318039

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98737-1	GWE-3D-0214	Total/NA	Water	415.1	
LCS 680-318039/34	Lab Control Sample	Total/NA	Water	415.1	
LCSD 680-318039/35	Lab Control Sample Dup	Total/NA	Water	415.1	
MB 680-318039/26	Method Blank	Total/NA	Water	415.1	

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Lab Chronicle

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98737-1
SDG: KPS114

Client Sample ID: GWE-3D-0214

Lab Sample ID: 680-98737-1

Date Collected: 02/18/14 12:25

Matrix: Water

Date Received: 02/19/14 09:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		25	317263	02/26/14 15:25	MMT	TAL SAV
Total/NA	Analysis	RSK-175		1	317227	02/26/14 17:20	TAR	TAL SAV
Total Recoverable	Prep	3005A			316575	02/20/14 16:48	BJB	TAL SAV
Total Recoverable	Analysis	6010C		1	317292	02/25/14 18:26	BCB	TAL SAV
Total/NA	Analysis	353.2		1	316308	02/19/14 13:54	GRX	TAL SAV
Total/NA	Analysis	310.1		1	317049	02/24/14 17:12	LBH	TAL SAV
Total/NA	Analysis	325.2		10	317298	02/25/14 14:02	JME	TAL SAV
Total/NA	Analysis	375.4		10	317304	02/25/14 13:53	JME	TAL SAV
Total/NA	Analysis	415.1		1	318039	03/03/14 05:27	JER	TAL SAV

Client Sample ID: GWE-3D-F(0.2)-0214

Lab Sample ID: 680-98737-2

Date Collected: 02/18/14 12:25

Matrix: Water

Date Received: 02/19/14 09:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			316575	02/20/14 16:48	BJB	TAL SAV
Dissolved	Analysis	6010C		1	317292	02/25/14 18:30	BCB	TAL SAV
Dissolved	Analysis	415.1		1	317610	02/26/14 17:58	CMP	TAL SAV

Client Sample ID: LTM Trip Blank #9

Lab Sample ID: 680-98737-3

Date Collected: 02/18/14 00:00

Matrix: Water

Date Received: 02/19/14 09:36

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	317585	02/27/14 17:42	TF1	TAL SAV

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

TestAmerica Savannah

MAR 13 2014

Savannah, GA 31404
phone 912.354.7858 fax 912.352.0165

TestAmerica
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TestAmerica Laboratories, Inc.

[illegible]

Login Sample Receipt Checklist

Client: Solutia Inc.

Job Number: 680-98737-1

SDG Number: KPS114

Login Number: 98737

List Source: TestAmerica Savannah

List Number: 1

Creator: Banda, Christy S

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Certification Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98737-1
SDG: KPS114

Laboratory: TestAmerica Savannah

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
	AFCEE		SAVLAB	
A2LA	DoD ELAP		399.01	02-28-15
A2LA	ISO/IEC 17025		399.01	02-28-15
Alabama	State Program	4	41450	06-30-14
Arkansas DEQ	State Program	6	68-0692	01-31-15
California	NELAP	9	3217CA	07-31-14
Colorado	State Program	8	N/A	12-31-14
Connecticut	State Program	1	PH-0161	03-31-15
Florida	NELAP	4	E87052	06-30-14
GA Dept. of Agriculture	State Program	4	N/A	06-30-14
Georgia	State Program	4	N/A	06-30-14
Georgia	State Program	4	803	06-30-14
Guam	State Program	9	09-005r	04-17-14 *
Hawaii	State Program	9	N/A	06-30-14
Illinois	NELAP	5	200022	11-30-14
Indiana	State Program	5	N/A	06-30-14
Iowa	State Program	7	353	07-01-15
Kentucky (DW)	State Program	4	90084	12-31-14
Kentucky (UST)	State Program	4	18	06-30-14
Louisiana	NELAP	6	LA100015	12-31-14
Maine	State Program	1	GA00006	08-16-14
Maryland	State Program	3	250	12-31-14
Massachusetts	State Program	1	M-GA006	06-30-14
Michigan	State Program	5	9925	06-30-14
Mississippi	State Program	4	N/A	06-30-14
Montana	State Program	8	CERT0081	01-01-15
Nebraska	State Program	7	TestAmerica-Savannah	06-30-14
New Jersey	NELAP	2	GA769	06-30-14
New Mexico	State Program	6	N/A	06-30-14
New York	NELAP	2	10842	03-31-14 *
North Carolina DENR	State Program	4	269	12-31-14
North Carolina DHHS	State Program	4	13701	07-31-14
Oklahoma	State Program	6	9984	08-31-14
Pennsylvania	NELAP	3	68-00474	06-30-14
Puerto Rico	State Program	2	GA00006	12-31-14
South Carolina	State Program	4	98001	06-30-14
Tennessee	State Program	4	TN02961	06-30-14
Texas	NELAP	6	T104704185-08-TX	11-30-14
USDA	Federal		SAV 3-04	04-07-14 *
Virginia	NELAP	3	460161	06-14-14
Washington	State Program	10	C1794	06-10-14
West Virginia DEP	State Program	3	94	06-30-14
West Virginia DHHR	State Program	3	9950C	12-31-14
Wisconsin	State Program	5	999819810	08-31-14
Wyoming	State Program	8	8TMS-L	06-30-14

* Expired certification is currently pending renewal and is considered valid.

TestAmerica Savannah

Solutia Krummrich Data Review WGK LTM 1Q14

Laboratory SDG: KPS115

Data Reviewer: Melissa Mansker

Peer Reviewer: Elizabeth Kunkel

Date Reviewed: 3/14/2014

Guidance: USEPA National Functional Guidelines for Superfund Organic Methods Data Review 2008. USEPA National Functional Guidelines for Superfund Inorganic Data Review 2010

Work Plan: Revised Long-Term Monitoring Program (LTMP) Work Plan (Solutia 2009)

Sample Identification	
CPA-MW-4D-0214	CPA-MW-4D-F(0.2)-0214
1Q14 LTM Trip Blank #10	

1.0 Data Package Completeness

Were all items delivered as specified in the QAPP and COC as appropriate?

Yes

2.0 Laboratory Case Narrative \ Cooler Receipt Form

Were problems noted in the laboratory case narrative or cooler receipt form?

Yes, the laboratory case narrative indicated sample CPA-MW-4D-0214 was diluted and re-analyzed to bring chlorobenzene within the calibration range of the instrument. Results for chlorobenzene were reported from the re-analysis diluted run and the remaining compounds were reported from the original analysis. Instrument calibration was outside evaluation criteria for nitrate in sample CPA-MW-4D-0214. These issues are addressed further in the appropriate sections below.

The cooler receipt form did not indicate any problems.

3.0 Holding Times

Were samples extracted/analyzed within applicable limits?

Yes

4.0 Blank Contamination

Were any analytes detected in the Method Blanks, Field Blanks or Trip Blanks?

No

5.0 Laboratory Control Sample

Were LCS recoveries within evaluation criteria?

Yes

6.0 Surrogate Recoveries

Were surrogate recoveries within evaluation criteria?

Yes

7.0 Matrix Spike and Matrix Spike Duplicate Recoveries

Were MS/MSD samples collected as part of this SDG?

Yes, although not requested, sample CPA-MW-4D-0214 was spiked and analyzed for sulfate.

Were MS/MSD recoveries within evaluation criteria?

Yes

8.0 Internal Standard (IS) Recoveries

Were internal standard area recoveries within evaluation criteria?

Yes

9.0 Laboratory Duplicate Results

Were laboratory duplicate samples collected as part of this SDG?

Yes, sample CPA-MW-4D-0214 were duplicated and analyzed for alkalinity, free carbon dioxide, and nitrate.

Were laboratory duplicate sample RPDs within criteria?

Yes

10.0 Field Duplicate Results

Were field duplicate samples collected as part of this SDG?

No

10.0 Sample Dilutions

For samples that were diluted and nondetect, were undiluted results also reported?

Not applicable; analytes were detected in samples that were diluted.

11.0 Additional Qualifications

Were additional qualifications applied?

Yes, the following sample is qualified, as summarized below, due to instrument calibration outside evaluation criteria for nitrate.

Sample ID	Parameter	Analyte	Qualification
CPA-MW-4D-0214	General chemistry	Nitrate	UJ

SDG KPS115

Results of Samples from Monitoring Well:

CPA-MW-4D

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

TestAmerica Job ID: 680-98831-1
TestAmerica Sample Delivery Group: KPS115
Client Project/Site: WGK Long Term Monitoring - 1Q14

For:
Solutia Inc.
575 Maryville Centre Dr.
Saint Louis, Missouri 63141

Attn: Mr. Jerry Rinaldi

Michele Kersey

Authorized for release by:
3/7/2014 3:32:24 PM

Michele Kersey, Project Manager I
(912)354-7858
michele.kersey@testamericainc.com

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www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

*Reviewed on
MAR 14 2014*

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MAR 14 2014 *[Signature]*

Case Narrative

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98831-1
SDG: KPS115

Job ID: 680-98831-1

Laboratory: TestAmerica Savannah

Narrative

CASE NARRATIVE

Client: Solutia Inc.

Project: WGK Long Term Monitoring - 1Q14

Report Number: 680-98831-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT

The samples were received on 2/21/2014 9:26 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.4° C.

VOLATILE ORGANIC COMPOUNDS (GC-MS)

Samples CPA-MW-4D-0214 (680-98831-1) and 1Q14 LTM Trip Blank #10 (680-98831-3) were analyzed for Volatile Organic Compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 03/05/2014.

Sample CPA-MW-4D-0214 (680-98831-1)[2X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No difficulties were encountered during the volatiles analysis.

All quality control parameters were within the acceptance limits.

SEMIVOLATILE ORGANIC COMPOUNDS (AQUEOUS)

Sample CPA-MW-4D-0214 (680-98831-1) was analyzed for Semivolatile Organic Compounds (Aqueous) in accordance with EPA SW-846 Method 8270D. The samples were prepared on 02/24/2014 and analyzed on 03/03/2014.

No difficulties were encountered during the semivolatiles analysis.

All quality control parameters were within the acceptance limits.

DISSOLVED GASES

Sample CPA-MW-4D-0214 (680-98831-1) was analyzed for dissolved gases in accordance with RSK-175. The samples were analyzed on 02/25/2014.

No difficulties were encountered during the dissolved gases analysis.

All quality control parameters were within the acceptance limits.

METALS (ICP)

Sample CPA-MW-4D-F(0.2)-0214 (680-98831-2) was analyzed for Metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 02/21/2014 and analyzed on 02/24/2014.

No difficulties were encountered during the metals analysis.

All quality control parameters were within the acceptance limits.

MAR 14 2014

Case Narrative

Client: Solutia Inc.
Project/Site: W GK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98831-1
SDG: KPS115

Job ID: 680-98831-1 (Continued)

Laboratory: TestAmerica Savannah (Continued)

METALS (ICP)

Sample CPA-MW-4D-0214 (680-98831-1) was analyzed for Metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 02/21/2014 and analyzed on 02/24/2014.

No difficulties were encountered during the metals analysis.

All quality control parameters were within the acceptance limits.

ALKALINITY

Sample CPA-MW-4D-0214 (680-98831-1) was analyzed for alkalinity in accordance with EPA Method 310.1. The samples were analyzed on 02/25/2014.

No difficulties were encountered during the alkalinity analysis.

All quality control parameters were within the acceptance limits.

CHLORIDE

Sample CPA-MW-4D-0214 (680-98831-1) was analyzed for Chloride in accordance with EPA Method 325.2. The samples were analyzed on 02/25/2014.

Sample CPA-MW-4D-0214 (680-98831-1)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No difficulties were encountered during the chloride analysis.

All quality control parameters were within the acceptance limits.

NITRATE-NITRITE AS NITROGEN

Sample CPA-MW-4D-0214 (680-98831-1) was analyzed for nitrate-nitrite as nitrogen in accordance with EPA Method 353.2. The samples were analyzed on 02/21/2014.

The nitrate result is obtained from a calculation incorporating the nitrite and nitrate + nitrite results. Re-analysis is not performed if QC for the calculated analyte does not meet acceptance criteria, provided the QC results for the component analytes are acceptable. Data have been qualified to denote this situation.

No difficulties were encountered during the nitrate-nitrite analysis.

All quality control parameters were within the acceptance limits.

SULFATE

Sample CPA-MW-4D-0214 (680-98831-1) was analyzed for sulfate in accordance with EPA Method 375.4. The samples were analyzed on 02/25/2014.

Sample CPA-MW-4D-0214 (680-98831-1)[10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.


No difficulties were encountered during the sulfate analysis.

All quality control parameters were within the acceptance limits.

TOTAL ORGANIC CARBON

Sample CPA-MW-4D-0214 (680-98831-1) was analyzed for total organic carbon in accordance with EPA Method 415.1. The samples were analyzed on 03/03/2014.

No difficulties were encountered during the TOC analysis.

MAR 14 2014 

Case Narrative

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98831-1
SDG: KPS115

Job ID: 680-98831-1 (Continued)

Laboratory: TestAmerica Savannah (Continued)


All quality control parameters were within the acceptance limits.

DISSOLVED ORGANIC CARBON (DOC)

Sample CPA-MW-4D-F(0.2)-0214 (680-98831-2) was analyzed for Dissolved Organic Carbon (DOC) in accordance with EPA Method 415.1. The samples were analyzed on 02/26/2014.

No difficulties were encountered during the DOC analysis.

All quality control parameters were within the acceptance limits.


MAR 14 2014 

Sample Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98831-1
SDG: KPS115

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-98831-1	CPA-MW-4D-0214	Water	02/20/14 12:30	02/21/14 09:26
680-98831-2	CPA-MW-4D-F(0.2)-0214	Water	02/20/14 12:30	02/21/14 09:26
680-98831-3	1Q14 LTM Trip Blank #10	Water	02/20/14 12:30	02/21/14 09:26

MAR 14 2014 

TestAmerica Savannah

Method Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98831-1
SDG: KPS115

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL SAV
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL SAV
RSK-175	Dissolved Gases (GC)	RSK	TAL SAV
6010C	Metals (ICP)	SW846	TAL SAV
310.1	Alkalinity	MCAWW	TAL SAV
325.2	Chloride	MCAWW	TAL SAV
353.2	Nitrogen, Nitrate-Nitrite	MCAWW	TAL SAV
375.4	Sulfate	MCAWW	TAL SAV
415.1	TOC	MCAWW	TAL SAV
415.1	DOC	MCAWW	TAL SAV

Protocol References:


MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

RSK = Sample Prep And Calculations For Dissolved Gas Analysis In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And its Updates.

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

MAR 14 2014 

TestAmerica Savannah

Definitions/Glossary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98831-1
SDG: KPS115

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
E	Result exceeded calibration range.
D	Surrogate or matrix spike recoveries were not obtained because the extract was diluted for analysis; also compounds analyzed at a dilution may be flagged with a D.

GC/MS Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

GC VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Metals


Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

General Chemistry

Qualifier	Qualifier Description
A	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC exceeds the control limits.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

MAR 14 2014 

TestAmerica Savannah

Detection Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98831-1
SDG: KPS115

Client Sample ID: CPA-MW-4D-0214

Lab Sample ID: 680-98831-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Benzene	23		1.0		ug/L	1		8260B	Total/NA
Chlorobenzene	220	E	1.0		ug/L	1		8260B	Total/NA
1,2-Dichlorobenzene	1.7		1.0		ug/L	1		8260B	Total/NA
1,4-Dichlorobenzene	3.2		1.0		ug/L	1		8260B	Total/NA
Benzene - DL	32	D	2.0		ug/L	2		8260B	Total/NA
Chlorobenzene - DL	270	D	2.0		ug/L	2		8260B	Total/NA
1,4-Dichlorobenzene - DL	4.2	D	2.0		ug/L	2		8260B	Total/NA
4-Chloroaniline	150		21		ug/L	1		8270D	Total/NA
Ethane	12		1.1		ug/L	1		RSK-175	Total/NA
Methane (TCD)	13000		390		ug/L	1		RSK-175	Total/NA
Iron	12		0.050		mg/L	1		6010C	Total
									Recoverable
Manganese	0.34		0.010		mg/L	1		6010C	Total
									Recoverable
Chloride	170		5.0		mg/L	5		325.2	Total/NA
Total Organic Carbon	7.9		1.0		mg/L	1		415.1	Total/NA
Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Alkalinity	600		5.0		mg/L	1		310.1	Total/NA
Carbon Dioxide, Free	29		5.0		mg/L	1		310.1	Total/NA

Client Sample ID: CPA-MW-4D-F(0.2)-0214


Lab Sample ID: 680-98831-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron, Dissolved	12		0.050		mg/L	1		6010C	Dissolved
Manganese, Dissolved	0.33		0.010		mg/L	1		6010C	Dissolved
Dissolved Organic Carbon	8.9		1.0		mg/L	1		415.1	Dissolved

Client Sample ID: 1Q14 LTM Trip Blank #10

Lab Sample ID: 680-98831-3

No Detections.

MAR 14 2014 

This Detection Summary does not include radiochemical test results.

TestAmerica Savannah

Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98831-1
SDG: KPS115

Client Sample ID: CPA-MW-4D-0214

Lab Sample ID: 680-98831-1

Date Collected: 02/20/14 12:30

Matrix: Water

Date Received: 02/21/14 09:26

Do not use this data. Use all other data.

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	23		1.0		ug/L			03/05/14 08:25	1
Chlorobenzene	220	E	1.0		ug/L			03/05/14 08:25	1
1,2-Dichlorobenzene	1.7		1.0		ug/L			03/05/14 08:25	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			03/05/14 08:25	1
1,4-Dichlorobenzene	3.2		1.0		ug/L			03/05/14 08:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	91		70 - 130		03/05/14 08:25	1
Dibromofluoromethane	103		70 - 130		03/05/14 08:25	1
Toluene-d8 (Surr)	92		70 - 130		03/05/14 08:25	1

Use these results only. All other data was reported from the 1x dilution analysis.

Method: 8260B - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	32	D	2.0		ug/L			03/05/14 15:44	2
Chlorobenzene	270	D	2.0		ug/L			03/05/14 15:44	2
1,2-Dichlorobenzene	2.0	U	2.0		ug/L			03/05/14 15:44	2
1,3-Dichlorobenzene	2.0	U	2.0		ug/L			03/05/14 15:44	2
1,4-Dichlorobenzene	4.2	D	2.0		ug/L			03/05/14 15:44	2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	96		70 - 130		03/05/14 15:44	2
Dibromofluoromethane	91		70 - 130		03/05/14 15:44	2
Toluene-d8 (Surr)	94		70 - 130		03/05/14 15:44	2

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chloroaniline	150		21		ug/L		02/24/14 15:35	03/03/14 17:15	1
2-Chlorophenol	10	U	10		ug/L		02/24/14 15:35	03/03/14 17:15	1
1,2,4-Trichlorobenzene	10	U	10		ug/L		02/24/14 15:35	03/03/14 17:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	60		38 - 130	02/24/14 15:35	03/03/14 17:15	1
2-Fluorophenol	68		25 - 130	02/24/14 15:35	03/03/14 17:15	1
Nitrobenzene-d5	79		39 - 130	02/24/14 15:35	03/03/14 17:15	1
Phenol-d5	71		25 - 130	02/24/14 15:35	03/03/14 17:15	1
Terphenyl-d14	90		10 - 143	02/24/14 15:35	03/03/14 17:15	1
2,4,6-Tribromophenol	104		31 - 141	02/24/14 15:35	03/03/14 17:15	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	12		1.1		ug/L			02/25/14 15:38	1
Ethylene	1.0	U	1.0		ug/L			02/25/14 15:38	1
Methane (TCD)	13000		390		ug/L			02/25/14 15:38	1

Method: 6010C - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	12		0.050		mg/L		02/21/14 15:49	02/24/14 14:54	1
Manganese	0.34		0.010		mg/L		02/21/14 15:49	02/24/14 14:54	1

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Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98831-1
SDG: KPS115

Client Sample ID: CPA-MW-4D-0214

Lab Sample ID: 680-98831-1

Date Collected: 02/20/14 12:30

Matrix: Water

Date Received: 02/21/14 09:26

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	170		5.0		mg/L			02/25/14 12:42	5
Nitrate as N	0.050	U [^] <i>WJ</i>	0.050		mg/L			02/21/14 17:25	1
Sulfate	50	U	50		mg/L			02/25/14 14:18	10
Total Organic Carbon	7.9		1.0		mg/L			03/03/14 05:41	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	600		5.0		mg/L			02/25/14 16:25	1
Carbon Dioxide, Free	29		5.0		mg/L			02/25/14 16:25	1

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Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98831-1
SDG: KPS115

Client Sample ID: CPA-MW-4D-F(0.2)-0214

Lab Sample ID: 680-98831-2

Date Collected: 02/20/14 12:30

Matrix: Water


Date Received: 02/21/14 09:26

Method: 6010C - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	12		0.050		mg/L		02/21/14 15:49	02/24/14 14:59	1
Manganese, Dissolved	0.33		0.010		mg/L		02/21/14 15:49	02/24/14 14:59	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	8.9		1.0		mg/L			02/26/14 21:01	1

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Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98831-1
SDG: KPS115

Client Sample ID: 1Q14 LTM Trip Blank #10

Lab Sample ID: 680-98831-3

Date Collected: 02/20/14 12:30

Matrix: Water

Date Received: 02/21/14 09:26

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			03/05/14 01:27	1
Chlorobenzene	1.0	U	1.0		ug/L			03/05/14 01:27	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			03/05/14 01:27	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			03/05/14 01:27	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			03/05/14 01:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	86		70 - 130		03/05/14 01:27	1
Dibromofluoromethane	104		70 - 130		03/05/14 01:27	1
Toluene-d8 (Surr)	90		70 - 130		03/05/14 01:27	1

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Surrogate Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98831-1
SDG: KPS115

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (70-130)	DBFM (70-130)	TOL (70-130)
680-98831-1	CPA-MW-4D-0214	91	103	92
680-98831-1 - DL	CPA-MW-4D-0214	96	91	94
680-98831-3	1Q14 LTM Trip Blank #10	86	104	90
LCS 680-318232/4	Lab Control Sample	94	96	94
LCS 680-318233/4	Lab Control Sample	89	97	93
LCS 680-318241/4	Lab Control Sample	97	97	99
LCSD 680-318232/5	Lab Control Sample Dup	95	97	94
LCSD 680-318233/5	Lab Control Sample Dup	92	102	96
LCSD 680-318241/5	Lab Control Sample Dup	95	93	93
MB 680-318232/8	Method Blank	93	102	93
MB 680-318233/8	Method Blank	90	112	95
MB 680-318241/8	Method Blank	91	104	93

Surrogate Legend
BFB = 4-Bromofluorobenzene
DBFM = Dibromofluoromethane
TOL = Toluene-d8 (Surr)


Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (38-130)	2FP (25-130)	NBZ (39-130)	PHL (25-130)	TPH (10-143)	TBP (31-141)
680-98831-1	CPA-MW-4D-0214	60	68	79	71	90	104
LCS 680-316953/6-A	Lab Control Sample	71	63	67	63	77	75
LCSD 680-316953/7-A	Lab Control Sample Dup	79	73	79	72	87	87
MB 680-316953/5-A	Method Blank	70	68	73	73	88	70

Surrogate Legend
FBP = 2-Fluorobiphenyl
2FP = 2-Fluorophenol
NBZ = Nitrobenzene-d5
PHL = Phenol-d5
TPH = Terphenyl-d14
TBP = 2,4,6-Tribromophenol

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QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98831-1
SDG: KPS115

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 680-318232/8

Matrix: Water

Analysis Batch: 318232

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U			1.0		ug/L			03/04/14 23:58	1
Chlorobenzene	1.0	U			1.0		ug/L			03/04/14 23:58	1
1,2-Dichlorobenzene	1.0	U			1.0		ug/L			03/04/14 23:58	1
1,3-Dichlorobenzene	1.0	U			1.0		ug/L			03/04/14 23:58	1
1,4-Dichlorobenzene	1.0	U			1.0		ug/L			03/04/14 23:58	1

Surrogate	MB	MB	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	93				70 - 130		03/04/14 23:58	1
Dibromofluoromethane	102				70 - 130		03/04/14 23:58	1
Toluene-d8 (Surr)	93				70 - 130		03/04/14 23:58	1

Lab Sample ID: LCS 680-318232/4

Matrix: Water

Analysis Batch: 318232

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike	LCS	LCS	Result	Qualifier	Unit	D	%Rec	%Rec.	Limits
Benzene	50.0	48.4				ug/L		97	74 - 123	
Chlorobenzene	50.0	50.0				ug/L		100	79 - 120	
1,2-Dichlorobenzene	50.0	48.5				ug/L		97	77 - 124	
1,3-Dichlorobenzene	50.0	51.3				ug/L		103	79 - 123	
1,4-Dichlorobenzene	50.0	49.9				ug/L		100	76 - 124	

Surrogate	LCS	LCS	%Recovery	Qualifier	Limits
4-Bromofluorobenzene	94				70 - 130
Dibromofluoromethane	96				70 - 130
Toluene-d8 (Surr)	94				70 - 130

Lab Sample ID: LCSD 680-318232/5

Matrix: Water

Analysis Batch: 318232

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike	LCSD	LCSD	Result	Qualifier	Unit	D	%Rec	%Rec.	Limits	RPD	Limit
Benzene	50.0	48.7				ug/L		97	74 - 123	1	30	
Chlorobenzene	50.0	50.7				ug/L		101	79 - 120	1	30	
1,2-Dichlorobenzene	50.0	49.6				ug/L		99	77 - 124	2	30	
1,3-Dichlorobenzene	50.0	51.7				ug/L		103	79 - 123	1	30	
1,4-Dichlorobenzene	50.0	50.3				ug/L		101	76 - 124	1	30	

Surrogate	LCSD	LCSD	%Recovery	Qualifier	Limits
4-Bromofluorobenzene	95				70 - 130
Dibromofluoromethane	97				70 - 130
Toluene-d8 (Surr)	94				70 - 130

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QC Sample Results

Client: Solutia Inc.
Project/Site: W GK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98831-1
SDG: KPS115

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 680-318233/8

Matrix: Water

Analysis Batch: 318233

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	1.0	U	1.0		ug/L			03/05/14 00:15	1
Chlorobenzene	1.0	U	1.0		ug/L			03/05/14 00:15	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			03/05/14 00:15	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			03/05/14 00:15	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			03/05/14 00:15	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	90		70 - 130		03/05/14 00:15	1
Dibromofluoromethane	112		70 - 130		03/05/14 00:15	1
Toluene-d8 (Surr)	95		70 - 130		03/05/14 00:15	1

Lab Sample ID: LCS 680-318233/4

Matrix: Water

Analysis Batch: 318233

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	47.8		ug/L		96	74 - 123
Chlorobenzene	50.0	48.6		ug/L		97	79 - 120
1,2-Dichlorobenzene	50.0	48.7		ug/L		97	77 - 124
1,3-Dichlorobenzene	50.0	49.6		ug/L		99	79 - 123
1,4-Dichlorobenzene	50.0	48.7		ug/L		97	76 - 124

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	89		70 - 130
Dibromofluoromethane	97		70 - 130
Toluene-d8 (Surr)	93		70 - 130

Lab Sample ID: LCSD 680-318233/5

Matrix: Water

Analysis Batch: 318233

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Benzene	50.0	48.6		ug/L		97	74 - 123	2	30
Chlorobenzene	50.0	49.3		ug/L		99	79 - 120	1	30
1,2-Dichlorobenzene	50.0	48.8		ug/L		98	77 - 124	0	30
1,3-Dichlorobenzene	50.0	50.3		ug/L		101	79 - 123	1	30
1,4-Dichlorobenzene	50.0	49.5		ug/L		99	76 - 124	2	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
4-Bromofluorobenzene	92		70 - 130
Dibromofluoromethane	102		70 - 130
Toluene-d8 (Surr)	96		70 - 130

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QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98831-1
SDG: KPS115

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 680-318241/8
Matrix: Water
Analysis Batch: 318241

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Benzene	1.0	U	1.0		ug/L			03/05/14 12:22	1
Chlorobenzene	1.0	U	1.0		ug/L			03/05/14 12:22	1
1,2-Dichlorobenzene	1.0	U	1.0		ug/L			03/05/14 12:22	1
1,3-Dichlorobenzene	1.0	U	1.0		ug/L			03/05/14 12:22	1
1,4-Dichlorobenzene	1.0	U	1.0		ug/L			03/05/14 12:22	1
Surrogate	MB MB		Limits				Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier							
4-Bromofluorobenzene	91		70 - 130					03/05/14 12:22	1
Dibromofluoromethane	104		70 - 130					03/05/14 12:22	1
Toluene-d8 (Surr)	93		70 - 130					03/05/14 12:22	1

Lab Sample ID: LCS 680-318241/4
Matrix: Water
Analysis Batch: 318241

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits	
		Result	Qualifier					
Benzene	50.0	52.1		ug/L		104	74 - 123	
Chlorobenzene	50.0	51.2		ug/L		102	79 - 120	
1,2-Dichlorobenzene	50.0	50.4		ug/L		101	77 - 124	
1,3-Dichlorobenzene	50.0	52.6		ug/L		105	79 - 123	
1,4-Dichlorobenzene	50.0	51.7		ug/L		103	76 - 124	
Surrogate	LCS LCS		Limits					
	%Recovery	Qualifier						
4-Bromofluorobenzene	97		70 - 130					
Dibromofluoromethane	97		70 - 130					
Toluene-d8 (Surr)	99		70 - 130					

Lab Sample ID: LCSD 680-318241/5
Matrix: Water
Analysis Batch: 318241

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	%Rec. Limits		RPD Limit	
		Result	Qualifier							
Benzene	50.0	49.1		ug/L		98	74 - 123	6	30	
Chlorobenzene	50.0	50.7		ug/L		101	79 - 120	1	30	
1,2-Dichlorobenzene	50.0	50.5		ug/L		101	77 - 124	0	30	
1,3-Dichlorobenzene	50.0	51.9		ug/L		104	79 - 123	1	30	
1,4-Dichlorobenzene	50.0	50.9		ug/L		102	76 - 124	2	30	
Surrogate	LCSD LCSD		Limits							
	%Recovery	Qualifier								
4-Bromofluorobenzene	95		70 - 130							
Dibromofluoromethane	93		70 - 130							
Toluene-d8 (Surr)	93		70 - 130							

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QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98831-1
SDG: KPS115

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 680-316953/5-A

Matrix: Water

Analysis Batch: 317351

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 316953

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
4-Chloroaniline	20	U	20		ug/L		02/24/14 15:35	02/26/14 14:24	1
2-Chlorophenol	10	U	10		ug/L		02/24/14 15:35	02/26/14 14:24	1
1,2,4-Trichlorobenzene	10	U	10		ug/L		02/24/14 15:35	02/26/14 14:24	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
2-Fluorobiphenyl	70		38 - 130	02/24/14 15:35	02/26/14 14:24	1
2-Fluorophenol	68		25 - 130	02/24/14 15:35	02/26/14 14:24	1
Nitrobenzene-d5	73		39 - 130	02/24/14 15:35	02/26/14 14:24	1
Phenol-d5	73		25 - 130	02/24/14 15:35	02/26/14 14:24	1
Terphenyl-d14	88		10 - 143	02/24/14 15:35	02/26/14 14:24	1
2,4,6-Tribromophenol	70		31 - 141	02/24/14 15:35	02/26/14 14:24	1

Lab Sample ID: LCS 680-316953/6-A

Matrix: Water

Analysis Batch: 317351

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 316953

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.
	Added	Result	Qualifier				Limits
4-Chloroaniline	100	54.9		ug/L		55	42 - 130
2-Chlorophenol	100	69.5		ug/L		70	57 - 130
1,4-Dioxane	100	57.7		ug/L		58	35 - 130
1,2,4-Trichlorobenzene	100	49.6		ug/L		50	42 - 130

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	71		38 - 130
2-Fluorophenol	63		25 - 130
Nitrobenzene-d5	67		39 - 130
Phenol-d5	63		25 - 130
Terphenyl-d14	77		10 - 143
2,4,6-Tribromophenol	75		31 - 141

Lab Sample ID: LCSD 680-316953/7-A

Matrix: Water

Analysis Batch: 317351

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 316953

Analyte	Spike	LCSD	LCSD	Unit	D	%Rec	%Rec.	RPD
	Added	Result	Qualifier				Limits	Limit
4-Chloroaniline	100	56.5		ug/L		56	42 - 130	3 50
2-Chlorophenol	100	81.4		ug/L		81	57 - 130	16 50
1,4-Dioxane	100	64.1		ug/L		64	35 - 130	10 50
1,2,4-Trichlorobenzene	100	59.1		ug/L		59	42 - 130	18 50

Surrogate	LCSD	LCSD	Limits
	%Recovery	Qualifier	
2-Fluorobiphenyl	79		38 - 130
2-Fluorophenol	73		25 - 130
Nitrobenzene-d5	79		39 - 130
Phenol-d5	72		25 - 130
Terphenyl-d14	87		10 - 143
2,4,6-Tribromophenol	87		31 - 141

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QC Sample Results

Client: Solutia Inc.
Project/Site: W GK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98831-1
SDG: KPS115

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 680-317026/8

Matrix: Water

Analysis Batch: 317026

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	1.1	U	1.1		ug/L			02/25/14 11:41	1
Ethylene	1.0	U	1.0		ug/L			02/25/14 11:41	1
Methane	0.58	U	0.58		ug/L			02/25/14 11:41	1
Methane (TCD)	390	U	390		ug/L			02/25/14 11:41	1

Lab Sample ID: LCS 680-317026/4

Matrix: Water

Analysis Batch: 317026

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethane	288	264		ug/L		91	75 - 125
Ethylene	269	254		ug/L		94	75 - 125
Methane	154	131		ug/L		85	75 - 125

Lab Sample ID: LCS 680-317026/5

Matrix: Water

Analysis Batch: 317026

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methane (TCD)	1920	1480		ug/L		77	75 - 125

Lab Sample ID: LCSD 680-317026/6

Matrix: Water

Analysis Batch: 317026

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methane (TCD)	1920	1870		ug/L		97	75 - 125	24	30

Lab Sample ID: LCSD 680-317026/7

Matrix: Water

Analysis Batch: 317026

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethane	288	275		ug/L		95	75 - 125	4	30
Ethylene	269	260		ug/L		97	75 - 125	2	30
Methane	154	137		ug/L		89	75 - 125	4	30

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 680-316760/1-A

Matrix: Water

Analysis Batch: 317041

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 316760

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.050	U	0.050		mg/L		02/21/14 15:49	02/24/14 13:11	1
Iron, Dissolved	0.050	U	0.050		mg/L		02/21/14 15:49	02/24/14 13:11	1
Manganese	0.010	U	0.010		mg/L		02/21/14 15:49	02/24/14 13:11	1
Manganese, Dissolved	0.010	U	0.010		mg/L		02/21/14 15:49	02/24/14 13:11	1

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QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98831-1
SDG: KPS115

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: LCS 680-316760/2-A

Matrix: Water

Analysis Batch: 317041

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 316760

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	5.00	5.11		mg/L		102	75 - 125
Iron, Dissolved	5.00	5.11		mg/L		102	75 - 125
Manganese	0.500	0.533		mg/L		107	75 - 125
Manganese, Dissolved	0.500	0.533		mg/L		107	75 - 125

Method: 310.1 - Alkalinity

Lab Sample ID: MB 680-317255/5

Matrix: Water

Analysis Batch: 317255

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Oil Fac
Alkalinity	5.0	U	5.0		mg/L			02/25/14 15:39	1
Carbon Dioxide, Free	5.0	U	5.0		mg/L			02/25/14 15:39	1

Lab Sample ID: LCS 680-317255/6

Matrix: Water

Analysis Batch: 317255

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity	250	239		mg/L		96	80 - 120

Lab Sample ID: LCSD 680-317255/14

Matrix: Water

Analysis Batch: 317255

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity	250	245		mg/L		98	80 - 120	2	30

Lab Sample ID: 680-98831-1 DU

Matrix: Water

Analysis Batch: 317255

Client Sample ID: CPA-MW-4D-0214

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity	600		584		mg/L		3	30
Carbon Dioxide, Free	29		27.4		mg/L		5	30

Method: 325.2 - Chloride

Lab Sample ID: MB 680-317298/26

Matrix: Water

Analysis Batch: 317298

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.0	U	1.0		mg/L			02/25/14 12:48	1

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QC Sample Results

Client: Solutia Inc.
Project/Site: W GK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98831-1
SDG: KPS115

Method: 325.2 - Chloride (Continued)

Lab Sample ID: LCS 680-317298/18

Matrix: Water

Analysis Batch: 317298

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	25.0	26.3		mg/L		105	85 - 115

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 680-316777/13

Matrix: Water

Analysis Batch: 316777

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0.050	U ^	0.050		mg/L			02/21/14 17:19	1

Lab Sample ID: LCS 680-316777/14

Matrix: Water

Analysis Batch: 316777

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate as N	0.500	0.545	^	mg/L		109	90 - 110
Nitrate Nitrite as N	1.00	1.05		mg/L		105	90 - 110
Nitrite as N	0.500	0.507		mg/L		101	90 - 110

Lab Sample ID: 680-98831-1 DU

Matrix: Water

Analysis Batch: 316777

Client Sample ID: CPA-MW-4D-0214

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Nitrate as N	0.050	U ^	0.050	U ^	mg/L		NC	10

Method: 375.4 - Sulfate

Lab Sample ID: MB 680-317304/8

Matrix: Water

Analysis Batch: 317304

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	5.0	U	5.0		mg/L			02/25/14 13:55	1

Lab Sample ID: LCS 680-317304/7

Matrix: Water

Analysis Batch: 317304

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	20.8		mg/L		104	75 - 125

Lab Sample ID: 680-98831-1 MS

Matrix: Water

Analysis Batch: 317304

Client Sample ID: CPA-MW-4D-0214

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	50	U	200	202		mg/L		101	75 - 125

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QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98831-1
SDG: KPS115

Method: 375.4 - Sulfate (Continued)

Lab Sample ID: 680-98831-1 MSD

Matrix: Water

Analysis Batch: 317304

Client Sample ID: CPA-MW-4D-0214

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	50	U	200	199		mg/L		100	75 - 125	2	30

Method: 415.1 - DOC

Lab Sample ID: MB 680-317615/2-A

Matrix: Water

Analysis Batch: 317610

Client Sample ID: Method Blank

Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.0	U	1.0		mg/L			02/26/14 17:27	1

Lab Sample ID: LCS 680-317615/1-A

Matrix: Water

Analysis Batch: 317610

Client Sample ID: Lab Control Sample

Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	20.0	20.4		mg/L		102	80 - 120

Method: 415.1 - TOC

Lab Sample ID: MB 680-318039/26

Matrix: Water

Analysis Batch: 318039

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1.0	U	1.0		mg/L			03/03/14 00:43	1

Lab Sample ID: LCS 680-318039/34

Matrix: Water

Analysis Batch: 318039

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	20.0	21.1		mg/L		105	80 - 120

Lab Sample ID: LCSD 680-318039/35

Matrix: Water

Analysis Batch: 318039

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	20.0	20.7		mg/L		103	80 - 120	2	25

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QC Association Summary

Client: Solutia Inc.
Project/Site: W GK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98831-1
SDG: KPS115

GC/MS VOA

Analysis Batch: 318232

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98831-1	CPA-MW-4D-0214	Total/NA	Water	8260B	
LCS 680-318232/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-318232/5	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-318232/8	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 318233

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98831-3	1Q14 LTM Trip Blank #10	Total/NA	Water	8260B	
LCS 680-318233/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-318233/5	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-318233/8	Method Blank	Total/NA	Water	8260B	

Analysis Batch: 318241

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98831-1 - DL	CPA-MW-4D-0214	Total/NA	Water	8260B	
LCS 680-318241/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 680-318241/5	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 680-318241/8	Method Blank	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 316953

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98831-1	CPA-MW-4D-0214	Total/NA	Water	3520C	
LCS 680-316953/6-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 680-316953/7-A	Lab Control Sample Dup	Total/NA	Water	3520C	
MB 680-316953/5-A	Method Blank	Total/NA	Water	3520C	

Analysis Batch: 317351

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 680-316953/6-A	Lab Control Sample	Total/NA	Water	8270D	316953
LCSD 680-316953/7-A	Lab Control Sample Dup	Total/NA	Water	8270D	316953
MB 680-316953/5-A	Method Blank	Total/NA	Water	8270D	316953

Analysis Batch: 317966

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98831-1	CPA-MW-4D-0214	Total/NA	Water	8270D	316953

GC VOA

Analysis Batch: 317026

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98831-1	CPA-MW-4D-0214	Total/NA	Water	RSK-175	
LCS 680-317026/4	Lab Control Sample	Total/NA	Water	RSK-175	
LCS 680-317026/5	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 680-317026/6	Lab Control Sample Dup	Total/NA	Water	RSK-175	
LCSD 680-317026/7	Lab Control Sample Dup	Total/NA	Water	RSK-175	
MB 680-317026/8	Method Blank	Total/NA	Water	RSK-175	

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QC Association Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98831-1
SDG: KPS115

Metals

Prep Batch: 316760

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98831-1	CPA-MW-4D-0214	Total Recoverable	Water	3005A	
680-98831-2	CPA-MW-4D-F(0.2)-0214	Dissolved	Water	3005A	
LCS 680-316760/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 680-316760/1-A	Method Blank	Total Recoverable	Water	3005A	

Analysis Batch: 317041

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98831-1	CPA-MW-4D-0214	Total Recoverable	Water	6010C	316760
680-98831-2	CPA-MW-4D-F(0.2)-0214	Dissolved	Water	6010C	316760
LCS 680-316760/2-A	Lab Control Sample	Total Recoverable	Water	6010C	316760
MB 680-316760/1-A	Method Blank	Total Recoverable	Water	6010C	316760

General Chemistry

Analysis Batch: 316777

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98831-1	CPA-MW-4D-0214	Total/NA	Water	353.2	
680-98831-1 DU	CPA-MW-4D-0214	Total/NA	Water	353.2	
LCS 680-316777/14	Lab Control Sample	Total/NA	Water	353.2	
MB 680-316777/13	Method Blank	Total/NA	Water	353.2	

Analysis Batch: 317255

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98831-1	CPA-MW-4D-0214	Total/NA	Water	310.1	
680-98831-1 DU	CPA-MW-4D-0214	Total/NA	Water	310.1	
LCS 680-317255/6	Lab Control Sample	Total/NA	Water	310.1	
LCSD 680-317255/14	Lab Control Sample Dup	Total/NA	Water	310.1	
MB 680-317255/5	Method Blank	Total/NA	Water	310.1	

Analysis Batch: 317298

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98831-1	CPA-MW-4D-0214	Total/NA	Water	325.2	
LCS 680-317298/18	Lab Control Sample	Total/NA	Water	325.2	
MB 680-317298/26	Method Blank	Total/NA	Water	325.2	

Analysis Batch: 317304

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98831-1	CPA-MW-4D-0214	Total/NA	Water	375.4	
680-98831-1 MS	CPA-MW-4D-0214	Total/NA	Water	375.4	
680-98831-1 MSD	CPA-MW-4D-0214	Total/NA	Water	375.4	
LCS 680-317304/7	Lab Control Sample	Total/NA	Water	375.4	
MB 680-317304/8	Method Blank	Total/NA	Water	375.4	

Analysis Batch: 317610

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98831-2	CPA-MW-4D-F(0.2)-0214	Dissolved	Water	415.1	
LCS 680-317615/1-A	Lab Control Sample	Dissolved	Water	415.1	317615
MB 680-317615/2-A	Method Blank	Dissolved	Water	415.1	317615

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QC Association Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98831-1
SDG: KPS115

General Chemistry (Continued)

Filtration Batch: 317615

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 680-317615/1-A	Lab Control Sample	Dissolved	Water	FILTRATION	
MB 680-317615/2-A	Method Blank	Dissolved	Water	FILTRATION	

Analysis Batch: 318039

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-98831-1	CPA-MW-4D-0214	Total/NA	Water	415.1	
LCS 680-318039/34	Lab Control Sample	Total/NA	Water	415.1	
LCSD 680-318039/35	Lab Control Sample Dup	Total/NA	Water	415.1	
MB 680-318039/26	Method Blank	Total/NA	Water	415.1	

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Lab Chronicle

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98831-1
SDG: KPS115

Client Sample ID: CPA-MW-4D-0214

Lab Sample ID: 680-98831-1

Date Collected: 02/20/14 12:30

Matrix: Water

Date Received: 02/21/14 09:26

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	318232	03/05/14 08:25	JD1	TAL SAV
Total/NA	Analysis	8260B	DL	2	318241	03/05/14 15:44	MMT	TAL SAV
Total/NA	Prep	3520C			316953	02/24/14 15:35	RBS	TAL SAV
Total/NA	Analysis	8270D		1	317966	03/03/14 17:15	SMC	TAL SAV
Total/NA	Analysis	RSK-175		1	317026	02/25/14 15:38	TAR	TAL SAV
Total Recoverable	Prep	3005A			316760	02/21/14 15:49	BJB	TAL SAV
Total Recoverable	Analysis	6010C		1	317041	02/24/14 14:54	BCB	TAL SAV
Total/NA	Analysis	353.2		1	316777	02/21/14 17:25	GRX	TAL SAV
Total/NA	Analysis	310.1		1	317255	02/25/14 16:25	LBH	TAL SAV
Total/NA	Analysis	325.2		5	317298	02/25/14 12:42	JME	TAL SAV
Total/NA	Analysis	375.4		10	317304	02/25/14 14:18	JME	TAL SAV
Total/NA	Analysis	415.1		1	318039	03/03/14 05:41	JER	TAL SAV

Client Sample ID: CPA-MW-4D-F(0.2)-0214

Lab Sample ID: 680-98831-2

Date Collected: 02/20/14 12:30

Matrix: Water

Date Received: 02/21/14 09:26

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			316760	02/21/14 15:49	BJB	TAL SAV
Dissolved	Analysis	6010C		1	317041	02/24/14 14:59	BCB	TAL SAV
Dissolved	Analysis	415.1		1	317610	02/26/14 21:01	CMP	TAL SAV

Client Sample ID: 1Q14 LTM Trip Blank #10

Lab Sample ID: 680-98831-3

Date Collected: 02/20/14 12:30

Matrix: Water


Date Received: 02/21/14 09:26

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	318233	03/05/14 01:27	JD1	TAL SAV

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

TestAmerica Savannah

MAR 14 2014 

Savannah
5102 LaRoche Avenue

Savannah, GA 31404
phone 912.354.7858 fax 912.352.0165

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

Client Contact		Project Manager: Bob Billman		Site Contact: Michael Corbett		COC No:	
URS Corporation		Tel/Fax: (314) 743-4108		Lab Contact: Michele Kersey		Carrier: FedEx	
1001 Highlands Plaza Drive West, Suite 300		Analysis Turnaround Time				1 of 1 COCs	
St Louis, MO 63110		Calendar (C) or Work Days (W) <u>C</u>				21563600-00001	
(314) 429-0100 Phone		TAT If different from Below <u>Standard</u>				SDG No.	
(314) 429-0462 FAX		<input type="checkbox"/> 2 weeks					
Project Name: 1Q14 LTM GW Sampling		<input type="checkbox"/> 1 week					
Site: Solutia WG Krummrich Facility		<input type="checkbox"/> 2 days					
P O #		<input type="checkbox"/> 1 day					
Sample Identification		Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Sample Specific Notes:
CPA-MW-4D-0214 ✓		2/20/14	1230	G	Water	16	
CPA-MW-4D-0214 ✓		2/20/14	1230	G	Water	2	
IQ14 LTM Trip Blank # 10		2/20/14	—	—	Water	2	
Preservation Used: 1= Ice, 2= HCl, 3= H2SO4, 4= HNO3, 5= NaOH, 6= Other						2 1 4 1 1 1 3 1 3 4 2	
Possible Hazard Identification						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Ion B <input type="checkbox"/> known						<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Give For _____ Months	
Special Instructions/QC Requirements & Comments:						650-98851 2.4°C	
Relinquished by: <u>[Signature]</u>	Company: URS	Date/Time: 2/20/14 1630	Received by:	Company:	Date/Time:		
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:		
Relinquished by:	Company:	Date/Time:	Received by: <u>[Signature]</u>	Company: <u>PA SW</u>	Date/Time: 02/21/14 0926		

Login Sample Receipt Checklist

Client: Solutia Inc.

Job Number: 680-98831-1

SDG Number: KPS115

Login Number: 98831

List Source: TestAmerica Savannah

List Number: 1

Creator: Conner, Keaton

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Certification Summary

Client: Solutia Inc.
Project/Site: WGK Long Term Monitoring - 1Q14

TestAmerica Job ID: 680-98831-1
SDG: KPS115

Laboratory: TestAmerica Savannah

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
	AFCEE		SAVLAB	
A2LA	DoD ELAP		399.01	02-28-15
A2LA	ISO/IEC 17025		399.01	02-28-15
Alabama	State Program	4	41450	06-30-14
Arkansas DEQ	State Program	6	88-0692	01-31-15
California	NELAP	9	3217CA	07-31-14
Colorado	State Program	8	N/A	12-31-14
Connecticut	State Program	1	PH-0161	03-31-15
Florida	NELAP	4	E87052	06-30-14
GA Dept. of Agriculture	State Program	4	N/A	06-30-14
Georgia	State Program	4	N/A	06-30-14
Georgia	State Program	4	803	06-30-14
Guam	State Program	9	09-005r	04-17-14 *
Hawaii	State Program	9	N/A	06-30-14
Illinois	NELAP	5	200022	11-30-14
Indiana	State Program	5	N/A	06-30-14
Iowa	State Program	7	353	07-01-15
Kentucky (DW)	State Program	4	90084	12-31-14
Kentucky (UST)	State Program	4	18	06-30-14
Louisiana	NELAP	6	LA100015	12-31-14
Maine	State Program	1	GA00006	08-16-14
Maryland	State Program	3	250	12-31-14
Massachusetts	State Program	1	M-GA006	06-30-14
Michigan	State Program	5	9925	06-30-14
Mississippi	State Program	4	N/A	06-30-14
Montana	State Program	8	CERT0081	01-01-15
Nebraska	State Program	7	TestAmerica-Savannah	06-30-14
New Jersey	NELAP	2	GA769	06-30-14
New Mexico	State Program	6	N/A	06-30-14
New York	NELAP	2	10842	03-31-14 *
North Carolina DENR	State Program	4	269	12-31-14
North Carolina DHHS	State Program	4	13701	07-31-14
Oklahoma	State Program	6	9984	08-31-14
Pennsylvania	NELAP	3	68-00474	06-30-14
Puerto Rico	State Program	2	GA00006	12-31-14
South Carolina	State Program	4	98001	06-30-14
Tennessee	State Program	4	TN02961	06-30-14
Texas	NELAP	6	T104704185-08-TX	11-30-14
USDA	Federal		SAV 3-04	04-07-14 *
Virginia	NELAP	3	460161	06-14-14
Washington	State Program	10	C1794	06-10-14
West Virginia DEP	State Program	3	94	06-30-14
West Virginia DHHR	State Program	3	9950C	12-31-14
Wisconsin	State Program	5	999819810	08-31-14
Wyoming	State Program	8	8TMS-L	06-30-14

* Expired certification is currently pending renewal and is considered valid.

TestAmerica Savannah

MAR 14 2014

Appendix E

Microbial Insights Data Package



10515 Research Drive
Knoxville, TN 37932
Phone: (865) 573-8188
Fax: (865) 573-8133

Client: Nathan McNurlen
URS Corp
1001 Highlands Plaza Dr. West
Suite 300
St. Louis, MO 63110

Phone:

Fax:

Identifier: 084LC

Date Rec: 03/25/2014

Report Date: 04/23/2014

Client Project #: 21563600

Client Project Name: Solutia WGK 1Q14 GW

Purchase Order #:

Analysis Requested: PLFA, Stable Isotope Probing, Standard Bio-Trap

Reviewed By:

A handwritten signature in black ink that reads 'Eric Hirschman Morris'.

NOTICE: This report is intended only for the addressee shown above and may contain confidential or privileged information. If the recipient of this material is not the intended recipient or if you have received this in error, please notify Microbial Insights, Inc. immediately. The data and other information in this report represent only the sample(s) analyzed and are rendered upon condition that it is not to be reproduced without approval from Microbial Insights, Inc. Thank you for your cooperation.

MICROBIAL INSIGHTS, INC.

10515 Research Dr., Knoxville, TN 37932
Tel. (865) 573-8188 Fax. (865) 573-8133

PLFA

Client: URS Corp
Project: Solutia WGK 1Q14 GW

MI Project Number: 084LC
Date Received: 03/25/2014

Sample Information

Sample Name:	BSA-MW-1S-03 14	BSA-MW-2D-03 14	BSA-MW-3D -0314	BSA-MW-4D-0 314	BSA-MW-5D-03 14
Sample Date:	03/24/2014	03/24/2014	03/24/2014	03/24/2014	03/24/2014
Sample Matrix:	Std. Bio-Trap	Adv. Bio-Trap	Std. Bio-Trap	Std. Bio-Trap	Std. Bio-Trap
Analyst:	BJ	BJ	BJ	BJ	BJ

Biomass Concentrations

Total Biomass (cells/bead)	5.36E+04	3.25E+04	2.73E+04	1.71E+04	7.37E+04
----------------------------	----------	----------	----------	----------	----------

Community Structure (% total PLFA)

	7.20	0.00	0.00	0.00	0.00
Firmicutes (TerBrSats)	69.98	78.64	68.57	65.10	87.84
Proteobacteria (Monos)	0.00	0.00	0.00	0.00	0.00
Anaerobic metal reducers (BrMonos)	0.00	0.00	0.00	0.00	0.00
SRB/Actinomycetes (MidBrSats)	22.81	21.37	31.43	34.90	12.17
General (Nsats)	0.00	0.00	0.00	0.00	0.00
Eukaryotes (polyenoics)					

Physiological Status (Proteobacteria only)

	0.88	0.15	0.13	0.52	0.07
Slowed Growth	0.50	0.00	0.00	0.00	0.00
Decreased Permeability					

Legend:

NA = Not Analyzed NS = Not Sampled

Client: URS Corp
Project: Solutia WGK 1Q14 GW

MI Project Number: 084LC
Date Received: 03/25/2014

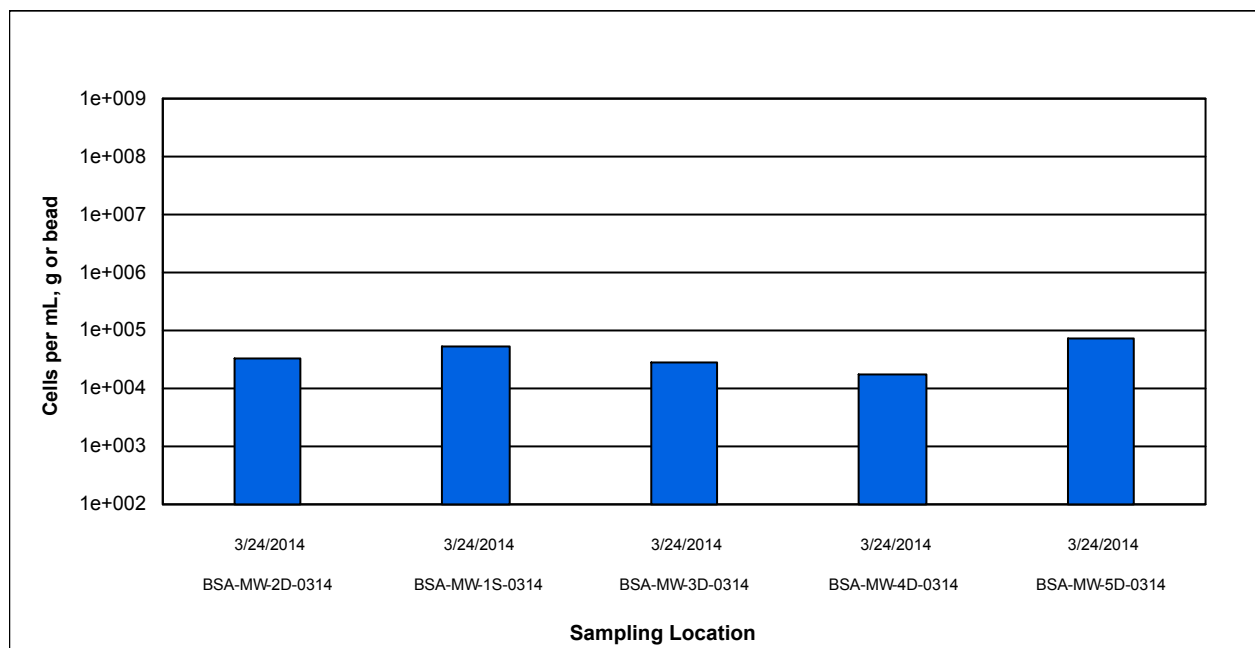


Figure 1. Biomass content is presented as a cell equivalent based on the total amount of phospholipid fatty acids (PLFA) extracted from a given sample. Total biomass is calculated based upon PLFA attributed to bacterial and eukaryotic biomass

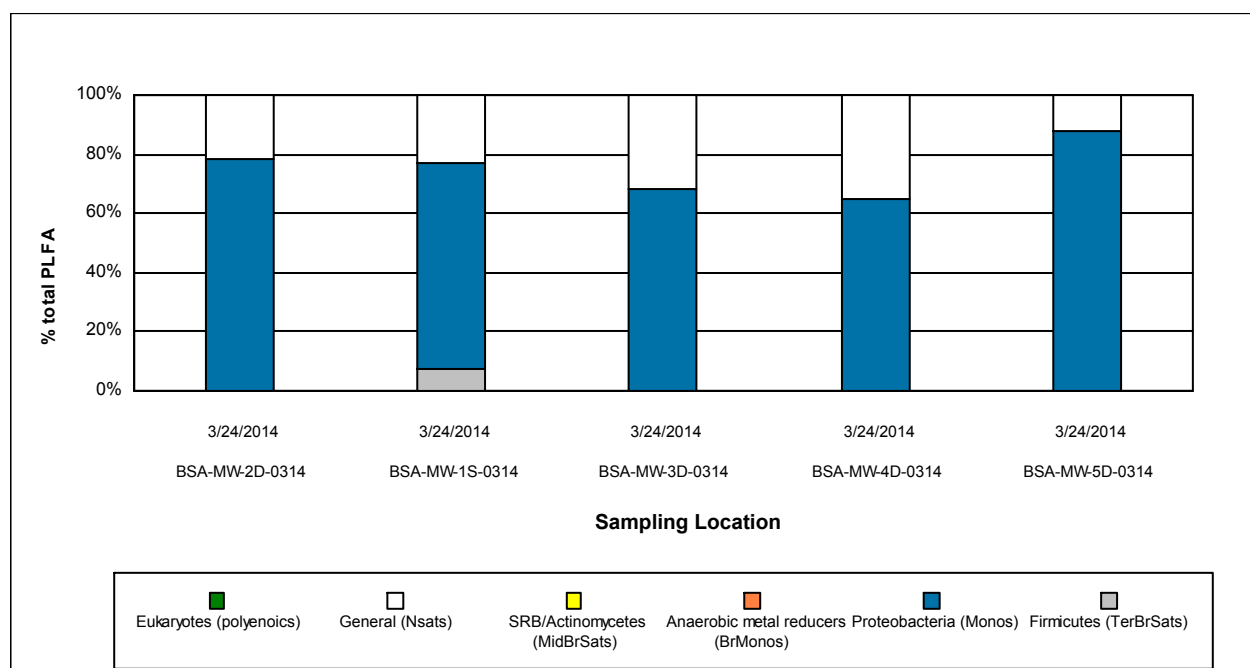


Figure 2. Relative percentages of total PLFA structural groups in the samples analyzed. Structural groups are assigned according to PLFA chemical structure, which is related to fatty acid biosynthesis.

MICROBIAL INSIGHTS, INC.

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PLFA

Client: URS Corp
Project: Solutia WGK 1Q14 GW

MI Project Number: 084LC
Date Received: 03/25/2014

Sample Information

Sample Name:	CPA-MW-1D-03 14	CPA-MW-2D-03 14	CPA-MW-3D -0314	CPA-MW-4D-0 314	CPA-MW-5D-0 314
Sample Date:	03/24/2014	03/24/2014	03/24/2014	03/24/2014	03/24/2014
Sample Matrix:	Std. Bio-Trap	Std. Bio-Trap	Adv. Bio-Trap	Std. Bio-Trap	Std. Bio-Trap
Analyst:	BJ	BJ	BJ	BJ	BJ

Biomass Concentrations

Total Biomass (cells/bead)	2.84E+04	8.33E+04	8.26E+04	4.09E+04	1.69E+04
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Community Structure (% total PLFA)

	0.00	0.00	1.95	0.00	0.00
Firmicutes (TerBrSats)	0.00	0.00	1.95	0.00	0.00
Proteobacteria (Monos)	66.75	74.19	47.58	69.39	66.31
Anaerobic metal reducers (BrMonos)	0.00	0.00	0.00	0.00	0.00
SRB/Actinomycetes (MidBrSats)	0.00	0.00	0.00	0.00	0.00
General (Nsats)	33.25	25.81	32.10	27.76	33.70
Eukaryotes (polyenoics)	0.00	0.00	18.36	2.84	0.00

Physiological Status (Proteobacteria only)

	1.71	1.00	0.06	0.20	0.35
Slowed Growth	1.71	1.00	0.06	0.20	0.35
Decreased Permeability	0.00	0.00	0.00	0.00	0.00

Legend:

NA = Not Analyzed NS = Not Sampled

Client: URS Corp
Project: Solutia WGK 1Q14 GW

MI Project Number: 084LC
Date Received: 03/25/2014

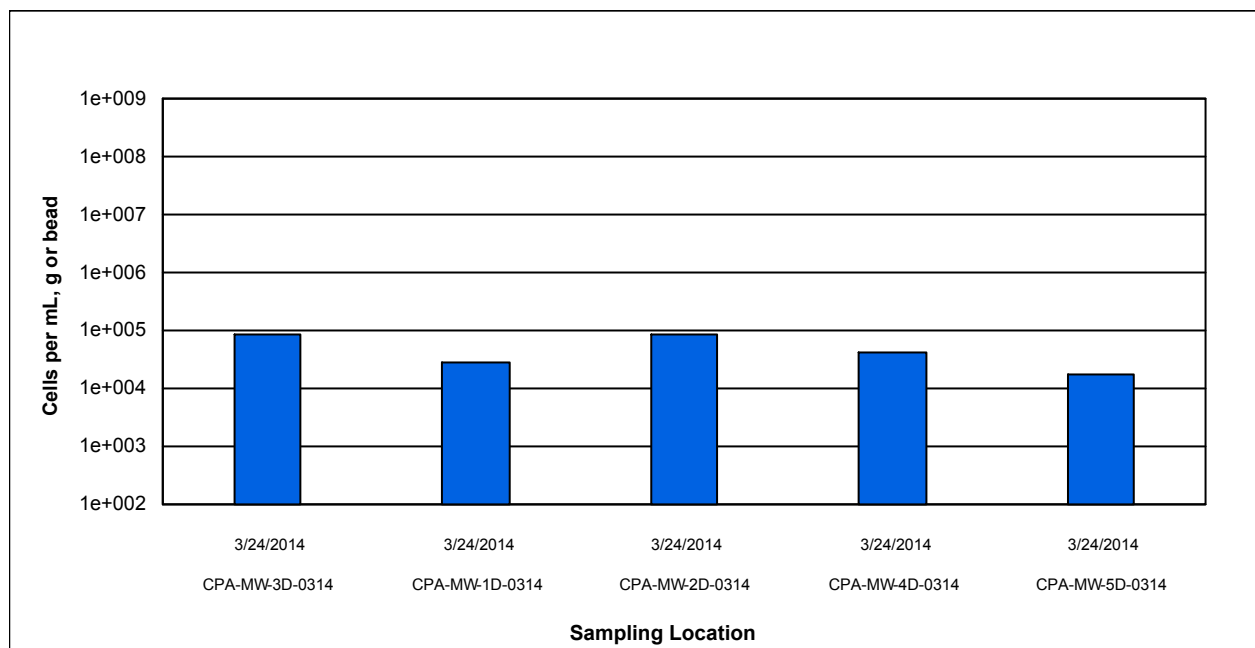


Figure 1. Biomass content is presented as a cell equivalent based on the total amount of phospholipid fatty acids (PLFA) extracted from a given sample. Total biomass is calculated based upon PLFA attributed to bacterial and eukaryotic biomass

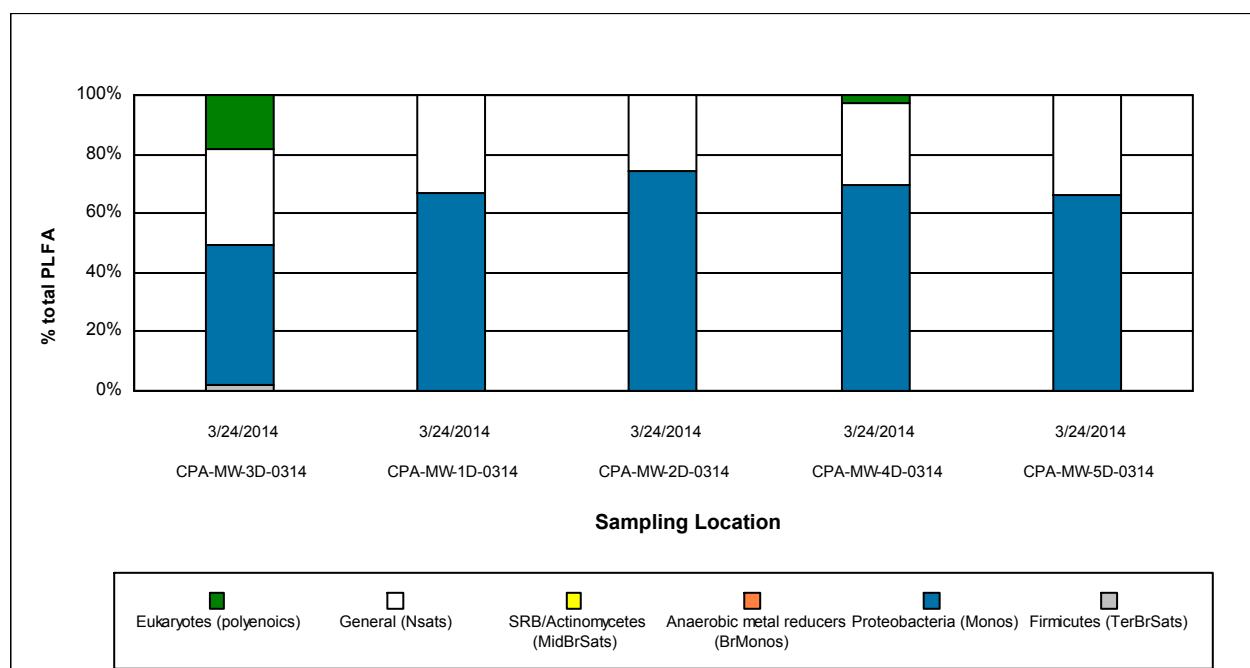


Figure 2. Relative percentages of total PLFA structural groups in the samples analyzed. Structural groups are assigned according to PLFA chemical structure, which is related to fatty acid biosynthesis.



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Identifier: 084LC

Date Rec: 03/25/2014

Report Date: 04/23/2014

Client Project #: 21563600

Client Project Name: Solutia WGK 1Q14 GW

Purchase Order #:

Comments: Please note that the total biomass result for samples BSA-MW-2D, BSA-MW-3D, BSA-MW-4D, CPA-MW-1D, CPA-MW-4D, and CPA-MW-5D fell between the method detection limit and the reporting limit for the PLFA analysis.

SITE LOGIC Report

Stable Isotope Probing (SIP) Study

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MI Identifier: 084LC

Report Date: 04/23/2014

Project: Solutia WGK 1Q14 GW; # 21563600

Comments:

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Executive Summary

A Stable Isotope Probing (SIP) study was performed to determine whether biodegradation of benzene and chlorobenzene is occurring under existing site conditions. Bio-Trap® samplers baited with ^{13}C labeled benzene and ^{13}C labeled chlorobenzene were deployed in monitoring wells BSA-MW-2D-0314 and CPA-MW-3D-0314, respectively. Following a deployment period, the Bio-Traps were recovered to quantify ^{13}C incorporation into biomass and dissolved inorganic carbon (DIC). A complete summary of the SIP results is provided in Table 1 and Figures 1 through 5. Tables 2 and 3 and Figures 6 through 9 contain summaries of PLFA analysis performed on standard Bio-Trap samplers deployed in BSA and CPA monitoring wells.

Stable Isotope Probing (SIP)

- Incorporation of ^{13}C into the biomass in wells BSA-MW-2D-0314 and CPA-MW-3D-0314 conclusively demonstrated that benzene and chlorobenzene biodegradation occurred under existing site conditions.
 - Total PLFA biomass concentrations in both wells ($3.25\text{E}+04$ and $8.26\text{E}+04$, respectively) were within the low range.
 - The average PLFA $\delta^{13}\text{C}$ values of wells BSA-MW-2D-0314 and CPA-MW-3D-0314 were 632‰ and 38‰, respectively, which showed incorporation of ^{13}C -labeled contaminant into the microbial biomass.
 - The average DIC $\delta^{13}\text{C}$ value (84‰) in well BSA-MW-2D-0314, although in the low range, conclusively showed that benzene was mineralized during the deployment period.
 - However, the average DIC $\delta^{13}\text{C}$ value (0.6‰) in well CPA-MW-3D-0314 was near background levels and indicated little to no mineralization of chlorobenzene occurred, at least during the deployment period.
 - The PLFA community structure in both wells was mostly comprised of monounsaturates, indicators of Proteobacteria, and normal saturates. Indicators for eukaryotes and Firmicutes were detected in CPA-MW-3D-0314.

PLFA Analysis - Standard Bio-Traps

- Total biomass concentrations in the BSA wells fell within the low range ($\sim 10^4$ cells/bead). Total biomass in wells BSA-MW-2D-0314, BSA-MW-3D-0314, and BSA-MW-4D-0314 fell between the reporting limit and the method detection limit for the PLFA analysis.
 - Monounsaturates were the primary PLFA group in the BSA wells suggesting that microbial communities in these wells were mostly Proteobacteria. The next most abundant group was the normal saturates. Indicators for Firmicutes were also detected in BSA-MW-1S-0314.
- In the CPA wells total PLFA biomass concentrations also fell within the lower range ($\sim 10^4$ cells/bead). Total biomass in wells CPA-MW-1D-0314, CPA-MW-4D-0314, and CPA-MW-5D-0314 fell between the reporting limit and the method detection.
 - The microbial community structures of the CPA wells were mostly similar to the BSA wells. Indicators for eukaryotes were detected in CPA-MW-3D-0314 and CPA-MW-4D-0314, while Firmicutes were only detected in CPA-MW-3D-0314.

Overview of Approach

Stable Isotope Probing (SIP)

Stable isotope probing (SIP) is an innovative method to track the environmental fate of a “labeled” contaminant of concern to unambiguously demonstrate biodegradation. Two stable carbon isotopes exist in nature – carbon 12 (^{12}C) which accounts for 99% of carbon and carbon 13 (^{13}C) which is considerably less abundant (~1%). With the SIP method, the Bio-Trap[®] sampler is baited with a specially synthesized form of the contaminant containing ^{13}C labeled carbon. Since ^{13}C is rare, the labeled compound can be readily differentiated from the contaminants present at the site. Following deployment, the Bio-Trap[®] is recovered and three approaches are used to conclusively demonstrate biodegradation of the contaminant of concern.

- The loss of the labeled compound provides an estimate of the degradation rate (% loss of ^{13}C).
- Quantification of ^{13}C enriched phospholipid fatty acids (PLFA) indicates incorporation into microbial biomass.
- Quantification of ^{13}C enriched dissolved inorganic carbon (DIC) indicates contaminant mineralization.

Phospholipid Fatty Acids (PLFA)

PLFA are a primary component of the membrane of all living cells including bacteria. PLFA decomposes rapidly upon cell death (1, 2), so the total amount of PLFA present in a sample is indicative of the viable biomass. When combined with stable isotope probing (SIP), incorporation of ^{13}C into PLFA is a conclusive indicator of biodegradation.

Some organisms produce “signature” types of PLFA allowing quantification of important microbial functional groups (e.g. iron reducers, sulfate reducers, or fermenters). The relative proportions of the groups of PLFA provide a “fingerprint” of the microbial community. In addition, *Proteobacteria* modify specific PLFA during periods of slow growth or in response to environmental stress providing an index of their health and metabolic activity.

Results

Table 1. Summary of the results obtained from the Bio-Trap® Units. Interpretation guidelines and definitions are found later in the document.

Sample Name	BSA-MW-2D-0314	CPA-MW-3D-0314
¹³C Contaminant Loss		
¹³ C Benzene Pre-deployment (µg/bead)	102 ± 11	----
¹³ C Benzene Post-deployment (µg/bead)	93 ± 5	----
¹³ C Chlorobenzene Pre-deployment (µg/bead)	----	126 ± 11
¹³ C Chlorobenzene Post-deployment (µg/bead)	----	81 ± 4
Biomass & ¹³C Incorporation		
Total Biomass (Cells/bead)	3.25E+04	8.26E+04
¹³ C Enriched Biomass (Cells/bead)	2.01E+02	5.61E+02
Average PLFA Del (‰)	632	38
Maximum PLFA Del (‰)	632	77
¹³C Mineralization		
DIC Del (‰)	84	0.6
% 13C	1.20	1.11
Community Structure (% total PLFA)		
Firmicutes (TerBrSats)	0.00	1.95
Proteobacteria (Monos)	78.64	47.58
Anaerobic metal reducers (BrMonos)	0.00	0.00
Actinomycetes (MidBrSats)	0.00	0.00
General (Nsats)	21.37	32.10
Eukaryotes (Polyenoics)	0.00	18.36
Physiological Status (Proteobacteria only)		
Slowed Growth	0.15	0.06
Decreased Permeability	0.00	0.00

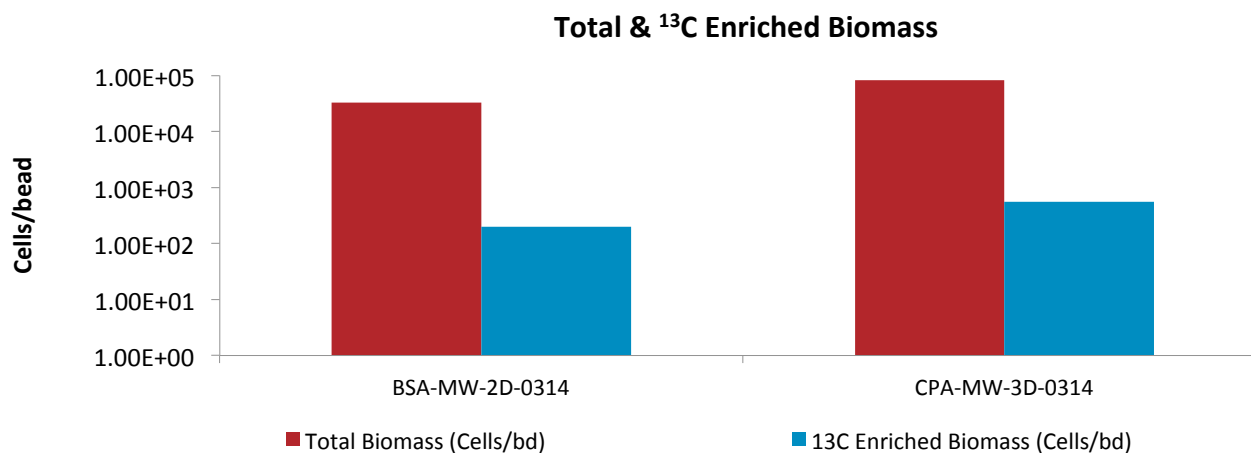


Figure 1. Biomass content is presented as a cell equivalent based on the total amount of phospholipid fatty acids (PLFA) extracted from a given sample. Total biomass is calculated based upon PLFA attributed to bacterial and eukaryotic biomass (associated with higher organisms).

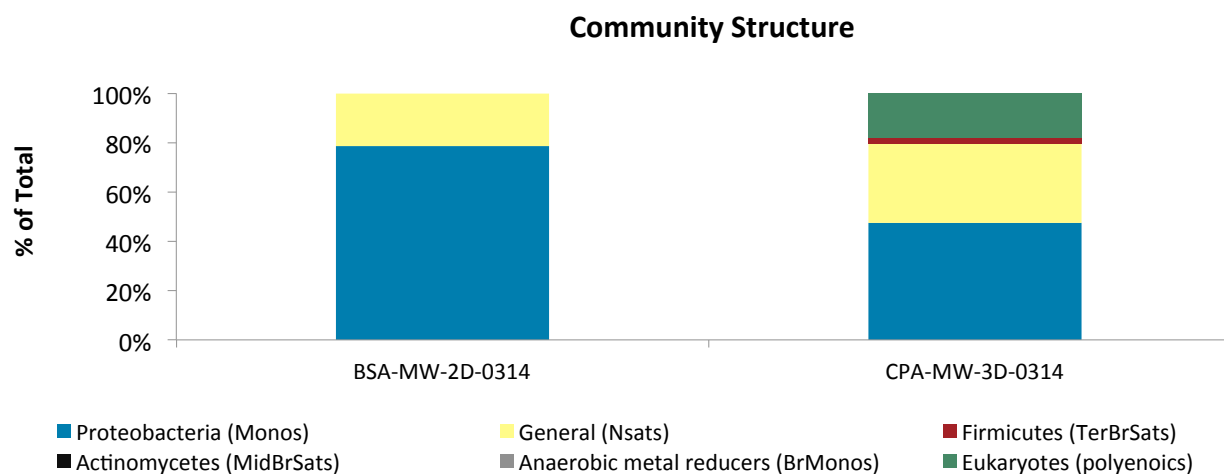


Figure 2. Relative percentages of total PLFA structural groups in the samples analyzed. Structural groups are assigned according to PLFA chemical structure, which is related to fatty acid biosynthesis. See the table in the interpretation section for detailed descriptions of the structural groups.

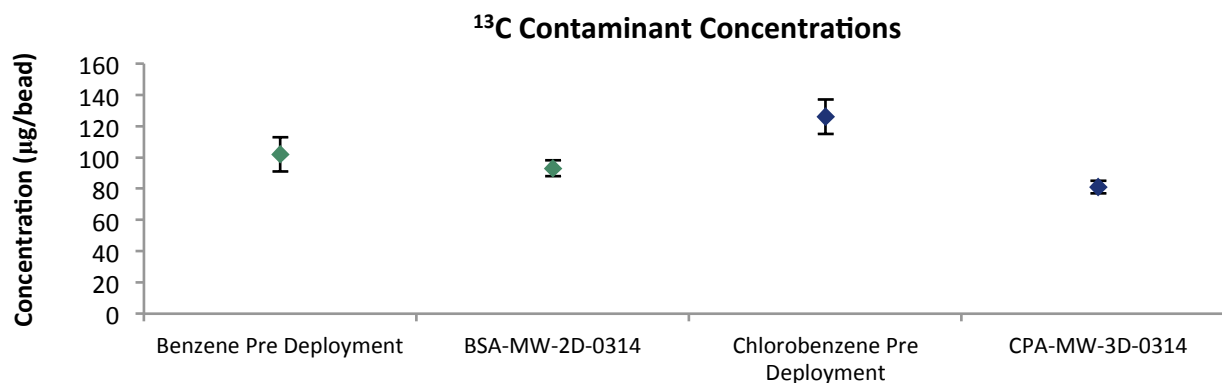


Figure 3. Comparison of Pre-deployment concentrations loaded on Bio-Sep beads to the concentrations detected after incubation.

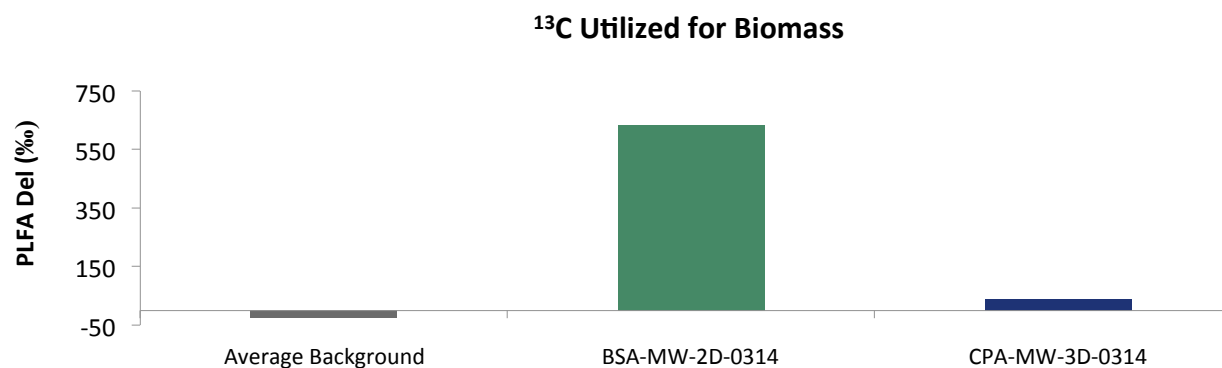


Figure 4. Comparison of the average Del value obtained from PLFA biomarkers from each Bio-Trap[®] unit to the average background Del observed in samples not exposed to ^{13}C enriched compounds.

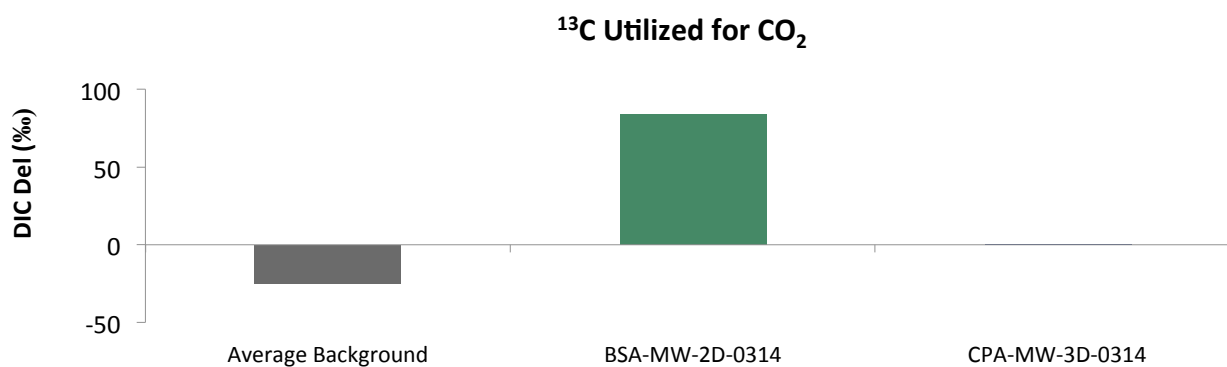


Figure 5. Comparison of the Del value obtained from DIC from each Bio-Trap[®] unit to the average background Del observed in samples not exposed to ^{13}C enriched compounds.

Table 2. Summary of the PLFA results for the benzene wells obtained from the Bio-Trap® Units.

Sample Name	BSA-MW-1S-0314	BSA-MW-2D-0314	BSA-MW-3D-0314	BSA-MW-4D-0314	BSA-MW-5D-0314
Biomass Concentration					
Total Biomass (Cells/bead)	5.36E+04	3.25E+04	2.73E+04	1.71E+04	7.37E+04
Community Structure (% total PLFA)					
Firmicutes (TerBrSats)	7.20	0.00	0.00	0.00	0.00
Proteobacteria (Monos)	69.98	78.64	68.57	65.10	87.84
Anaerobic metal reducers (BrMonos)	0.00	0.00	0.00	0.00	0.00
Actinomycetes (MidBrSats)	0.00	0.00	0.00	0.00	0.00
General (Nsats)	22.81	21.37	31.43	34.90	12.17
Eukaryotes (Polyenoics)	0.00	0.00	0.00	0.00	0.00
Physiological Status (Proteobacteria only)					
Slowed Growth	0.88	0.15	0.13	0.52	0.07
Decreased Permeability	0.50	0.00	0.00	0.00	0.00

Table 3. Summary of the PLFA results for the chlorobenzene wells obtained from the Bio-Trap® Units.

Sample Name	CPA-MW-1D-0314	CPA-MW-2D-0314	CPA-MW-3D-0314	CPA-MW-4D-0314	CPA-MW-5D-0314
Biomass Concentration					
Total Biomass (Cells/bead)	2.84E+04	8.33E+04	8.26E+04	4.09E+04	1.69E+04
Community Structure (% total PLFA)					
Firmicutes (TerBrSats)	0.00	0.00	1.95	0.00	0.00
Proteobacteria (Monos)	66.75	74.19	47.58	69.39	66.31
Anaerobic metal reducers (BrMonos)	0.00	0.00	0.00	0.00	0.00
Actinomycetes (MidBrSats)	0.00	0.00	0.00	0.00	0.00
General (Nsats)	33.25	25.81	32.10	27.76	33.70
Eukaryotes (Polyenoics)	0.00	0.00	18.36	2.84	0.00
Physiological Status (Proteobacteria only)					
Slowed Growth	1.71	1.00	0.06	0.20	0.35
Decreased Permeability	0.00	0.00	0.00	0.00	0.00

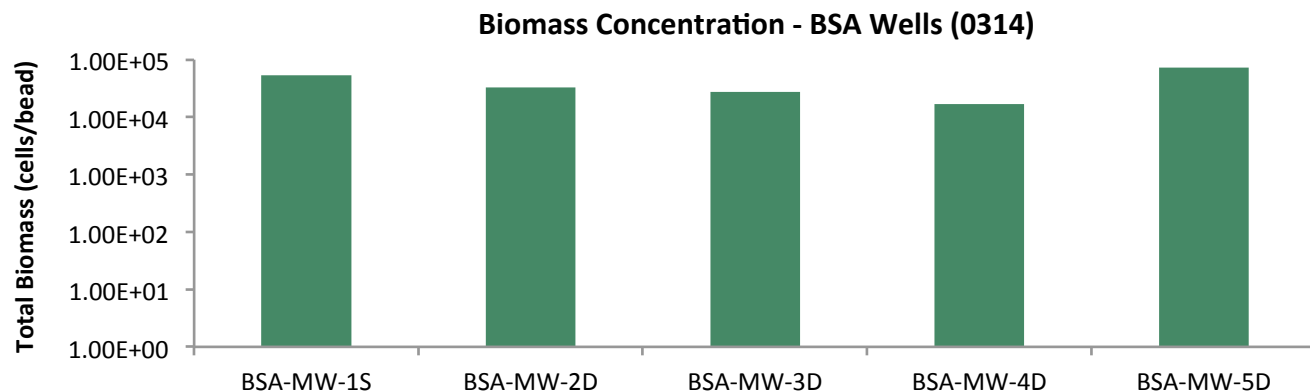


Figure 6. Biomass content is presented as a cell equivalent based on the total amount of phospholipid fatty acids (PLFA) extracted from a given sample. Total biomass is calculated based upon PLFA attributed to bacterial and eukaryotic biomass (associated with higher organisms).

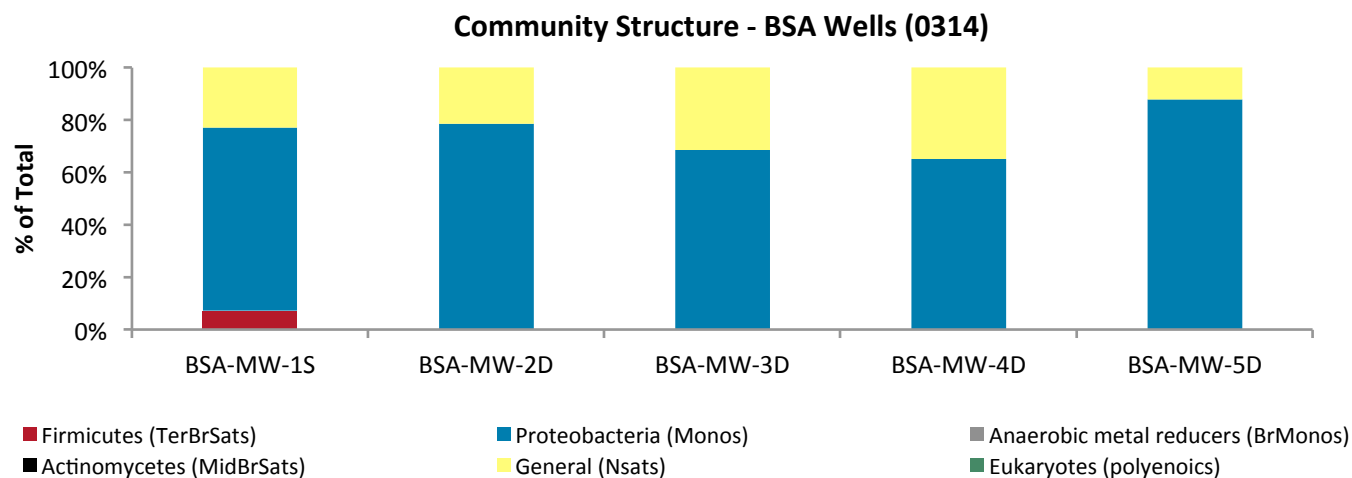


Figure 7. Relative percentages of total PLFA structural groups in the samples analyzed. Structural groups are assigned according to PLFA chemical structure, which is related to fatty acid biosynthesis. See the table in the interpretation section for detailed descriptions of the structural groups.

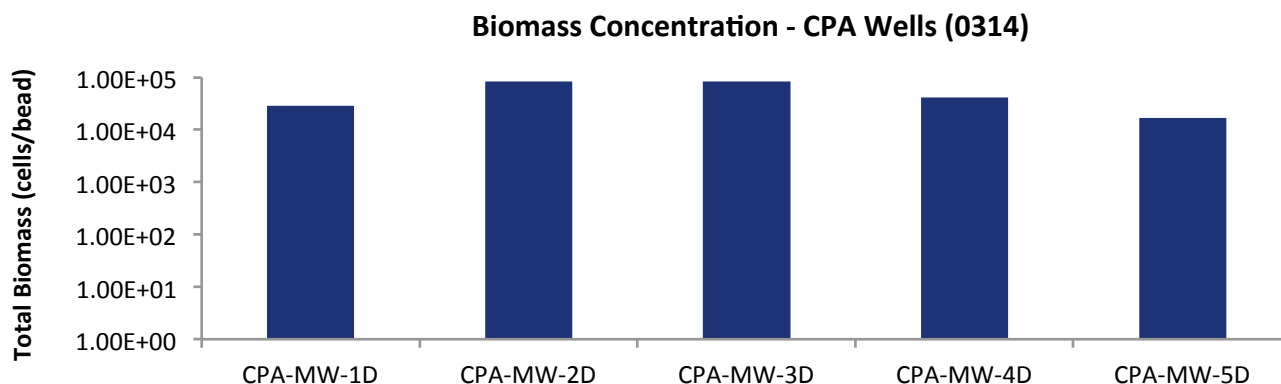


Figure 8. Biomass content is presented as a cell equivalent based on the total amount of phospholipid fatty acids (PLFA) extracted from a given sample. Total biomass is calculated based upon PLFA attributed to bacterial and eukaryotic biomass (associated with higher organisms).

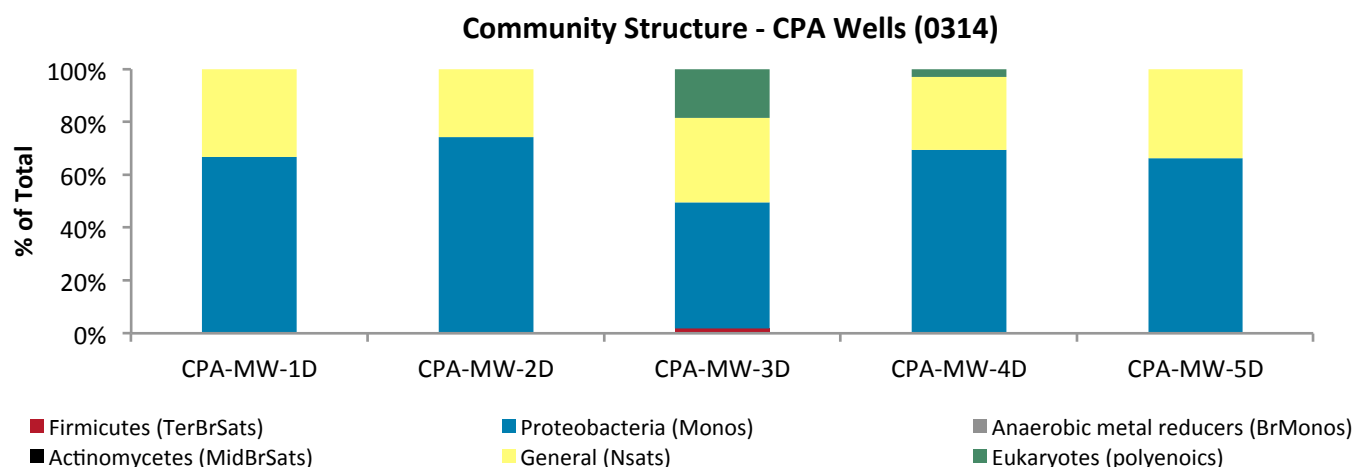


Figure 9. Relative percentages of total PLFA structural groups in the samples analyzed. Structural groups are assigned according to PLFA chemical structure, which is related to fatty acid biosynthesis. See the table in the interpretation section for detailed descriptions of the structural groups.

Interpretation

Interpretation of the results of the SIP Bio-Trap® study must be performed with due consideration of site conditions, site activities, and the desired treatment mechanism. The following discussion describes interpretation of results in general terms and is meant to serve as a guide.

Contaminant Concentration: Bio-Traps® are baited with a ^{13}C labeled contaminant of concern and a pre-deployment concentration is determined prior to shipping. Following deployment, Bio-Traps® are recovered for analysis including measurement of the concentration of the ^{13}C labeled contaminant remaining. Pre- and post-deployment concentrations are used to calculate percent loss.

Biomass Concentrations: PLFA analysis is one of the most reliable and accurate methods available for the determination of viable (live) biomass. Phospholipids break down rapidly upon cell death, so biomass calculations based on PLFA content do not include “fossil” lipids from dead cells. Total biomass (cells/bead) is calculated from total PLFA using a conversion factor of 20,000 cells/pmol of PLFA. When making comparisons between wells, treatments, or over time, differences of one order of magnitude or more are considered significant.

Total Biomass		
Low	Moderate	High
10^3 to 10^4 cells	10^5 to 10^6 cells	10^7 to 10^8 cells

For SIP studies, the ^{13}C enriched PLFA is also determined to conclusively demonstrate contaminant biodegradation and quantify incorporation into biomass as a result of the ^{13}C being used for cellular growth. The % ^{13}C incorporation (^{13}C enriched biomass/total biomass) is also provided in the data summary table, but the value must be interpreted carefully especially when comparing wells or treatments. Typically, biodegradation of a contaminant of concern is performed by a small subset of the total microbial community. For Bio-Traps® with large total biomass, the % ^{13}C incorporation value could be low despite significant ^{13}C labeled biomass and loss of the compound. The % ^{13}C incorporation should be viewed in light of total biomass, percent loss, and dissolved inorganic carbon (DIC) results.

^{13}C enrichment data is often reported as a del value. The del value is the difference between the isotopic ratio ($^{13}\text{C}/^{12}\text{C}$) of the sample (R_x) and a standard (R_{std}) normalized to the isotopic ratio of the standard (R_{std}) and multiplied by 1,000 (units are parts per thousand, denoted ‰).

R_{std} is the naturally occurring isotopic ratio and is approximately 0.011180 (roughly 1% of naturally occurring carbon is ^{13}C). The isotopic ratio, R_x , of PLFA is typically less than the R_{std} under natural conditions, resulting in a del value between -20 and -30‰. For a SIP Bio-Trap® study, biodegradation and incorporation of the ^{13}C labeled compound into PLFA results in a larger $^{13}\text{C}/^{12}\text{C}$ ratio (R_x) and thus del values greater than under natural conditions. Typical PLFA del values are provided below.

PLFA Del (‰)		
Low	Moderate	High
0 to 100	100 to 1,000	>1,000

Dissolved Inorganic Carbon (DIC): Often, bacteria can utilize the ^{13}C labeled compound as both a carbon and energy source. The ^{13}C portion used as a carbon source for growth can be incorporated into PLFA as discussed above, while the ^{13}C used for energy is oxidized to $^{13}\text{CO}_2$ (mineralized).

^{13}C enriched CO_2 data is often reported as a del value as described above for PLFA. Under natural conditions, the R_x of CO_2 is approximately the same as R_{std} (0.01118 or about 1.1% ^{13}C). For an SIP Bio-Trap® study, mineralization of the ^{13}C labeled contaminant of concern would lead to a greater value of R_x (increased $^{13}\text{CO}_2$ production) and thus a positive del value. As with PLFA, del values between 0 and 100‰ are considered low, values between 100 and 1,000‰ are considered moderate, and values greater than 1,000‰ are considered high. Thus DIC % ^{13}C are considered low if the value is less than 1.23%, moderate if between 1.23 and 2.24%, and high if greater than 2.24%.

Dissolved Inorganic Carbon (DIC) Del and % ^{13}C		
Low	Moderate	High
0 to 100	100 to 1,000	>1,000
1.11 to 1.23%	1.23 to 2.24%	>2.24%

Community Structure (% total PLFA): Community structure data is presented as a percentage of PLFA structural groups normalized to the total PLFA biomass. The relative proportions of the PLFA structural groups provide a “fingerprint” of the types of microbial groups (e.g. anaerobes, sulfate reducers, etc.) present and therefore offer insight into the dominant metabolic processes occurring at the sample location. Thorough interpretation of the PLFA structural groups depends in part on an understanding of site conditions and the desired microbial biodegradation pathways. For example, an increase in mid chain branched saturated PLFA (MidBrSats), indicative of sulfate reducing bacteria (SRB) and *Actinomycetes*, may be desirable at a site where anaerobic BTEX biodegradation is the treatment mechanism, but would not be desirable for a corrective action promoting aerobic BTEX or MTBE biodegradation. The following table provides a brief summary of each PLFA structural group and its potential relevance to bioremediation.

Table 2. Description of PLFA structural groups.

PLFA Structural Group	General classification	Potential Relevance to Bioremediation Studies
Monoenoic (Monos)	Abundant in Proteobacteria (Gram negative bacteria), typically fast growing, utilize many carbon sources, and adapt quickly to a variety of environments.	Proteobacteria is one of the largest groups of bacteria and represents a wide variety of both aerobes and anaerobes. The majority of Hydrocarbon utilizing bacteria fall within the Proteobacteria
Terminally Branched Saturated (TerBrSats)	Characteristic of Firmicutes (Low G+C Gram-positive bacteria), and also found in Bacteriodes, and some Gram-negative bacteria (especially anaerobes).	Firmicutes are indicative of presence of anaerobic fermenting bacteria (mainly <i>Clostridia</i> / <i>Bacteriodes</i> -like), which produce the H_2 necessary for reductive dechlorination
Branched Monoenoic (BrMonos)	Found in the cell membranes of micro-aerophiles and anaerobes, such as sulfate- or iron-reducing bacteria	In contaminated environments high proportions are often associated with anaerobic sulfate and iron reducing bacteria
Mid-Chain Branched Saturated (MidBrSats)	Common in sulfate reducing bacteria and also Actinobacteria (High G+C Gram-positive bacteria).	In contaminated environments high proportions are often associated with anaerobic sulfate and iron reducing bacteria
Normal Saturated (Nsats)	Found in all organisms.	High proportions often indicate less diverse populations.
Polyenoic	Found in higher plants, and animals.	Eukaryotic scavengers will often prey on contaminant utilizing bacteria.

Physiological Status (*Proteobacteria*): Some *Proteobacteria* modify specific PLFA as a strategy to adapt to stressful environmental conditions (3, 4). For example, *cis* monounsaturated fatty acids may be modified to cyclopropyl fatty acids during periods of slowed growth or modified to *trans* monounsaturated fatty acids to decrease membrane permeability in response to environmental stress. The ratio of product to substrate fatty acid thus provides an index of their health and metabolic activity. In general, status ratios greater than 0.25 indicate a response to unfavorable environmental conditions.

Glossary

Del: A Del value is the difference between the isotopic ratio ($^{13}\text{C}/^{12}\text{C}$) of the sample (R_x) and a standard (R_{std}) normalized to the isotopic ratio of the standard (R_{std}) and multiplied by 1,000 (units are parts per thousand denoted ‰).

$$\text{Del} = (R_x - R_{\text{std}}) / R_{\text{std}} \times 1000$$

References

1. White, D.C., W.M. Davis, J.S. Nickels, J.D. King, and R.J. Bobbie. 1979. Determination of the sedimentary microbial biomass by extractable lipid phosphate. *Oecologia* 40:51-62.
2. White, D.C. and D.B. Ringelberg. 1995. Utility of signature lipid biomarker analysis in determining in situ viable biomass. In P.S. Amy and D.L. Halderman (eds.) *The microbiology of the terrestrial surface*. CRC Press, Boca Raton.
3. Guckert, J.B., M.A. Hood, and D.C. White. 1986. Phospholipid ester-linked fatty acid profile changes during nutrient deprivation of *Vibrio cholerae*: increases in the trans/cis ratio and proportions of cyclopropyl fatty acids. *Applied and Environmental Microbiology*. 52:794-801.
4. Tsitko, I.V., G. M. Zaitsev, A. G. Lobanok, and M.S. Salkinoja-Salonen. 1999. Effect of aromatic compounds on cellular fatty acid composition of *Rhodococcus opacus*. *Applied and Environmental Microbiology*. 65:853-855.

Reports will be provided to the contact(s) listed below. Parties other than the contact(s) listed below will require prior approval.

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Project Manager:	Bob Billman
Project Name:	Solutia W GK 1Q14 GW
Project No.:	21563600

Report Type: ☒ Standard (default) ☐ Comprehensive (15% surcharge) ☐ Historical (30% surcharge)

Please contact us prior to submitting samples regarding questions about the analyses you are requesting at (865) 573-8188 (8:00 am to 4:00 pm M-F). After these hours please call (865) 300-8053.

For Invoices paid by a third party it is imperative that contact information & corresponding reference No. be provided.

Name: Same

Company: _____

Address: _____

email: _____

Phone: _____

Fax: _____

Purchase Order No. _____

Subcontract No. _____



10515 Research Drive
Knoxville, TN 37932
phone (865) 573-8188
fax: (865) 573-8133
email: info@microbe.com
www.microbe.com

Please Check One:

☐ More samples to follow

☒ No Additional Samples

Saturday Delivery

Please see sampling protocol for instructions

[illegible]

In order for analysis to be completed correctly, it is vital that chain of custody is filled out correctly & that all relative information is provided. Failure to provide sufficient and/or correct information regarding reporting, invoicing & analyses requested information may result in delays for which MI will not be liable. *** additional cost and sample preservation are associated with RNA samples.**